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Fusion Products Bibliography

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Abstract

This report presents a bibliographic data base which is concerned with publications on various aspects of fusion reaction products in magnetically confined fusion plasmas. This includes fusion reaction cross-sections, diagnostics of fusion reaction products, including α-particle diagnostics, plasma physics investigations with and on fusion products, α-particle theories, and α-particle experiments.

The database in BiBTEX-format is intended for use with LATEX/BibTEX but also this printed version is hopefully useful for everybody interested in this subject.

Fusion Products Bibliography
Version 4.0

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1 Introduction

In 1987 I started assembling a bibliographic data base in BiBTEX-format, which is concerned with publications on

- fusion reaction cross-sections,
- diagnostics of fusion reaction products, including α-particle diagnostics,
- plasma physics investigations with and on fusion products,
- α-particle theories, and
- α-particle experiments

I have included literature about measurements on different types of experiments, such as tokamaks, stellarators, mirror experiments, and plasma focus experiments, but I have not included papers relating to the physics of inertial confinement experiments.

All papers that came to my attention before January 24, 1988 are included in a version of this data base which has been published as a technical memorandum by Princeton Plasma Physics Laboratory in May 1988 as PPPL/TM-383 [BOSCH88B], containing 245 publications. The present version of the bibliography now contains 1012 publications from this field.

Meanwhile a similiar bibliography (although with a larger emphasis on aspects of α-particles) has been published by L. M. Hively and D. Sigmar [HIVELY90A].

An intermediate version of this biliography was used for a review paper on fast particles by W. Heidbrink and G. Sadler [HEIDBRINK94A].

The next section contains some technical information on this data base, and in section 3 all the publications are sorted by their subjects. Although the sorting is rather coarse, it should help finding papers on a certain subject. Starting on page 11, all the references are listed in alphabetical order (for each author chronologically).

2 Comments

- For this bibliography I included all publications that are published in journals, as Lab reports, or in conference proceedings.
- Regarding the conferences, I excluded contributions to the meetings of the American Physical Society (published in Bull. Am. Phys. Soc.) and of the Deutsche Physikalische Gesellschaft (published in Verh. Deutsche Phys. Gesellschaft), since those abstracts contain so little information.
- A lot of the publications have been issued as a laboratory report first. I have chosen to cite the final publication, since this has been reviewed, and supposedly has changes in it. In the cases where I know the lab report it is mentioned in an additional note.
- In cases where at this moment only a lab report exists, which is intended to be published in a journal, the report is cited, but as soon as it is published I will change the citation appropriately.
- Each label consists of the authors name, the year and a running letter. With conferences and lab reports the year is often different from the year of the final publication. After the assignment in the database, however, I prefer not to modify labels later, because such modifications will interfere with the continuous use of the database.
- This bibliography exists as a BIBTEX database, and on request (E-mail to bosch@ipp.mpg.de) the fusproX.bib-files can be made available.
- If a reader feels that important papers from this context are missing in the database, I would appreciate heaing about this. Please send all available bibliographic information on such papers by E-mail to bosch@ipp.mpg.de.

3 Publications in the database

3.1 Fusion reaction cross sections and reactivities

For the evaluation of fusion product measurements and for the performance prediction of future experiments or reactor studies the fusion cross-sections and reactivities are very important. This subject has been reviewed recently[BOSCH90C], putting all the original publications into context. Here these publications are only roughly sorted by the aspect they treat.
From the beginning of fusion research there has been a lot of measurements of the fusion cross sections, for the D(t,n)α reaction [BRETSCHER49A], [BROLLEY51A], [ARGO52A], [CONNER52A], [STRATTON52A], [JARVIS53A], [ARNOLD53A], [ARNOLD54A], [HEMMEN55A], [GALONSKY56A], [BAME57A], [BALABANOV57A], [BALABANOV57B], [GOLDBERG61A], [KATSAUROV62A], [KOBZEV66A], [JARMIE82A], [JARMIE84A], [BROWN87A], on the angular distribution for this reaction [JIZHOU87A], on the neutron polarization [SMITH72A], and on the corresponding γ-ray creating branch, [BUSS63A], [KOSIARA70A], [CECIL84A], [CECIL85B], [CECIL85C], [MORGAN86A],
for the D(^{3}He,p)α-reaction, [ALLRED51A], [BONNER52A], [JARVIS53A], [YARNELL53A], [ARNOLD54A], [FREIER54A], [KUNZ55A], [KLIUCHAREV56A], [STEWART60A], [MOELLER80A], [KRAUSS87A],
for the D(d,p)T-reaction, [BLAIR48A], [MCNEILL51A], [MOFFAT52A], [WENZEL52A], [DAVENPORT53A], [ELIOT53A], [ARNOLD54A], [PRESTON54A], [BOOTH56A], [BROLLEY57A], [GANEEV57A], [BRENNAN58A], [ENGEL61A], [THEUS66A], [SCHULTE72A], [JARMIE85A], [KRAUSS87A], [BROWN89A], [ROTH90A], on the angular distribution for this reaction [MANNING42A], and on the corresponding γ-ray creating branch, [WILKINSON85A],
and for the D(d,n)^3He-reaction, [BLAIR48A], [ERICKSON49A], [HUNTER49A], [MCNEILL51A], [ARNOLD54A], [PRESTON54A], [BOOTH56A], [BROLLEY57A], [DAVIDENKO57A], [GANEEV57A], [GOLDBERG60A], [THORNTON69A], [SCHULTE72A], [JARMIE85A], [KRAUSS87A], [BROWN89A], (the data published by Mc Neill in '51 and by Arnold in '54 have been corrected later by Mc Neill [MCNEILL55A]), and on the angular distribution for this reaction [CHAGNON56A], [FULLER57A], [MILONE61A], [RUBY63A],
These experimental data have been reviewed regularly, resulting in tables, figures, or formulas representing a best fit through the data available at that time [LISKIEN73A], [DROSG87A], [JARMIE56A] [WANDEL59A], [GREENE67A], [DUANE72A], [PERES79A], [JARMIE81A], [BROWN86A], [JARMIE86A], [SADLER87B], [BOSCH90A], [BOSCH90C], [COX90A], [ABRAMOVICH91A], [ABRAMOVICH91B], [ROGERWHITE91A], [BOSCH92A],
In the same way reviews have been published which present tables, figures or formulas for thermonuclear reactivities (or reaction rates) [TUCK54A], [TUCK61A], [GREENE67A], [FUTCH72A], [MILEY74A], [STEWART74A], [HIVELY77A], [MCNALLY79A], [PERES79A], [BRUNELLI80A], [HIVELY83A], [JOHNER87A], [SADLER87B], [BOSCH90C], [BOSCH92A], or beam-target reactivities [JASSBY75A], [JASSBY76A], [SLAUGHTER83A], [MIKKELSEN89A],
It has also been tried to calculate Maxwellian and beam-target reactivites analytically [CORE87B]. A collection of formulae used at JET is given in [MARCUS92B],
Related to these calculations are general fusion gain considerations [JASSBY74A], [TOWNER76B], [JASSBY78A], [JASSBY79A], [JASSBY79B], [JASSBY86A], [NIIKURA90A], [CHANIOTAKIS91A],
Some of the underlying basic nuclear physics for fusion reactions, and the application of R-matrix theory for a better evaluation of the experimental cross section data is described in [CLAYTON68A], [POSPIECH75A], [HALE79A], [HALE79B], [HALE86A], [HALE87A], [HALE90A], [HALE90B], [ARTHUR91A],
General nuclear data needs for fusion have been discussed in [JARVIS85B], for the lower energies, relevant to astrophysics it was discussed in [ROLFS91A], and the requirements for fusion cross sections were presented in [JARMIE86A].
Due to the special properties of the nuclear reaction, the D(^{3}He,p)α reaction requires special attention. The present status of the research effort is reviewed in [FUNDAMENSKI96A].
Neutron cross-sections are given e.g. in [MCLANE88A], [WAGNER90A].

3.2 DD fusion rate measurements

- Reviews on fusion product diagnostics [HENDEL82A], [JARVIS82A], [STRACHAN82A]
- On the calculation of charged particle orbits in toroidal plasmas [FELT90A], [DHAESELEER90A], [KOVANEN90A], [ERIKSSON92A], [DOLOC95A],
- Fusion neutron measurements: A review on Russian measurements [ZAVERYAEV77A]. and observations in Scylla IV-P (linear theta pinch) [EKDAHL79A], and ORMAK [MORGAN75A], in PLT [STRACHAN78A], [STRACHAN78B], [COLESTOCK79B], [STRACHAN81A], [ZANKL81A],

[STRACHAN83C], [STRACHAN83B], [LOVBERG89A],
in Alcator A [STRACHAN79A], [GWINN78A], [SCHUSS79A], [SCHUSS81A], and ALCATOR C [PAPPAS83A],
in TFTR with DD [HENDEL86A], [HENDEL86B], [HENDEL87A], [ZARNSTORFF88B], [LOVBERG89A], [HENDEL89A], [SCOTT90A], [JASSBY91A], [STRACHAN92A],[MAUEL92A], [PARK94A], with DD and DT [BARNES95A] and with DT [BARNES95D], [JOHNSON95B],
in JET [JET88A], [LOUGHLIN89B], [GIBSON90A], [JONES90A], [SADLER89A], [SADLER90A], [STUBBERFIELD90A], [ADAMS91A], [JACQUINOT91A],[KUPSCHUS91A], [SADLER91A], [JET91A], [MARCUS96A], with RF heating [JACQUINOT92A], [JET90A],
in ASDEX [HUEBNER85A], [HUEBNER87A], [PREIS91A], [BAETZNER89A], [BOMBA91A], [WOLLE94A],
in Doublet DIII [LOVBERG89A],[HEIDBRINK97A], in TEXTOR [WASSENHOVE90A], [WASSENHOVE97A], in JT60-U [NISHITANI92B], [NISHITANI94A], [NISHITANI94B],

photo-neutrons in PLT [STRACHAN77A], in ALCATOR C [PAPPAS83A] Alcator C-mod [BORRAS95A], in JT-60 [AIKAWA87A], in JET [JARVIS87E], [JARVIS88A], [THOMAS88A], and in Tore-Supra [CHATELIER89A], [MARTIN90A], with sawteeth [GUO92A], runaway electron measurements in JET [ESPOSITO96A],
and electrodisintegration in PLT [STRACHAN77C], fusion rates during D(^{3}He) Heating in JET [BOYD89A], [ERIKSSON89A], fusion yield measurements with activation [HOEK95A],

modelling and interpretation of neutron rates [YAMAGIWA91A], [WOLLE92A], [WOLLE92B], [WOLLE92C], [THOMPSON92A], [WOLLE95A], [JARVIS97A],

and projections for (D)T heating [COTTRELL89A], [COTTRELL89B], [KOVANEN91A] (Monte-Carlo study)

- Fusion Yield Scaling in PLT [GRISHAM83A], in ASDEX [HUEBNER89B], in DOUBLET III [ABE87A], and in JET [KARLSSON95A],
  and yield predictions [TOWNER76B], [NIIKURA88A], [NIIKURA90A],
  general issues on neutron rate interpretation [WOLLE91A],

- Ion temperature determined from proton flux measurements [HEIDBRINK84A], [HEIDBRINK85A], from proton spectra [NAGLE60A],[BOSCH86A], [BOSCH86C], from neutron flux [STODIEK71A], [ARTSIMO72A],[STRACHAN86C], [HUEBNER88B], [IZVOZ88A],
  from neutron flux [WOLLE90A], [ESPOSITO91A]
  and from neutron spectra [PARETZKE68A], [GORINI85A], [JARVIS87B], [LOUGHLIN91A], [FOLEY85A], [GORINI95A],

- Determination of the ion temperature gradient [HEIDBRINK87B], [LOVBERG89B], of the ion energy balance with OH [BRUSATI78A], and with ICRH [LOVBERG87A], [GONDHALEKAR78A], ion thermal diffusivity from decaying profiles [SASAO92A], [SASAO92B] of tritium transport [JOHNSON94A],

- Z_{eff} and n_dDetermination from neutron measurements [SLAUGHTER79A], [JARVIS87C], [JARVIS89A], [JARVIS89B], [LOUGHLIN91A], [KAELLNE91A], [WASSENHOVE97A],

- ^{3}He transport experiments in PLT [STRACHAN83A], [CHRIEN81C] and in TFTR [STRACHAN87A]

- Influence of plasma rotation on the neutron yield [HENDEL87A], [CORE87A],
  and on the fusion product spectra [SCHEFFEL84A], [BOSCH86B], [BOSCH86C], [HUEBNER87A], [HUEBNER89A].

- Source profile measurements [STRACHAN78A], [STRACHAN78C], [MURPHY85A], [HEIDBRINK86A], [BOSCH86A], [ADAMS87A], [ADAMS89A], [LOUGHLIN89A], [BOSCH90B] [MARCUS90A], [MARCUS90B], [MARTIN90B], [MARCUS90C], [ESPOSITO91A], [HOWARTH92A], [JOHNSON92A], [ESPOSITO92A], [JOHNSON94A], [MARCUS95A],
  with sawteeth [MARCUS91B], and with DT in JET [MARCUS92C], [MARCUS93A], [JARVIS95C], 14 MeV neutron profiles [KAELLNE92A], [VONGOELER96A], methods for the data analysis [GORINI90B], and one review on this subject [STRACHAN86B]

- On the use of fusion experiments as neutron sources [HENDEL89A], [KAELLNE90A],

- Fusion products in focus devices [BRZOSKO83A], [JAEGER85A], [JAEGER86A], [BRZOSKO87A], [SCHMIDT87A],
  and Z pinches [GERBER90A]

3.3 Measurements of fusion product spectra

- Calculations of fusion product spectra [WARD62A], [LEHNER67A] [LEHNER70A], [BRYSK73A], [TOWNER75A], [TOWNER76A], [SCHEFFEL84A], [HEIDBRINK85B], [HEIDBRINK85C], [MARTIN85A], [SLAUGHTER86A], [SLAUGHTER86B], [VANBELLE86A] [SLAUGHTER89A], [SADLER95A], [BALLABIO97A],

- Measurements of fusion product spectra have been performed on SCEPTRE III [NAGLE60A], [JONES61A], ZETA [COOMBE63A], on ISAR I [PARETZKE68A], on mirror experiments [FOOTE79A], on laser driven targets [WELCH84A],
  and on tokamaks with OH [FISHER84A], [FISHER83A], ICRH [CHRIEN81B], [CHRIEN83A], [HEIDBRINK84C], with NBI [STRACHAN79B], [STEINMETZ83A], [GORINI85A], [FOLEY85A], [BOSCH86A], [BOSCH86B], [BOSCH86C], [JARVIS87B], [SIMMET89A], [BOSCH90B], [LEINBERGER91A], [LOUGHLIN91A], [GORINI95A], and with LH [CHRIEN83B], [BOSCH86A], [BOSCH86B], [BOSCH86C], [BOSCH90B], neutron spectra on JET [ELEVANT94A], [WOLLE95B], [OLSSON92A],

- Measurements of charged fusion product spectra for the determination of the neutral beam species mix [SMITH82A], [MARKEVICH84A], [RUBY86A], [BAYETTI86A], [KUGEL89A],

- 15 MeV protons in JET [JARVIS94A], [MARCUS91A], [MARCUS92A].

3.4 Environmental physics related problems

Tritium measurements in tokamaks [STENCEL88A], [GOODALL89A], [COAD91A],
Tritium cleanup of TFTR vessel [CAORLIN94A]
Tritium recycling and retention in tokamaks [DYLLA88A], [KRUGER96A],
Vessel activation [JARVIS88B],
TFTR's first DT experience [CALDWELL92A],
radiation shielding in TFTR with DD [KUGEL91A], [KUGEL94A], and with DT [KUGEL95A],

3.5 Neutron transport calculations in tokamaks

[KU83A], [KU85A], [ROBOUCH87A], [HUEBNER87B], [DICKENS87A], [FISCHER88A], [HUEBNER88A], [VERSCHUUR86A], [VERSCHUUR86A], [KU89A], [NISHITANI89A], [FIEG90C], [FISCHER90A], [FIEG91B] (mostly related to radiation protection issues), [BATISTONI96A], [HUEBNER94A] (TEXTOR), [ROLLET92A] (Ignitor),
and calculations with a comparison to measurements [SANTORO87A],
and neutron collimation [GLASGOW74A], [FIEG92A],

3.6 Fusion γ–Rays

- Basic physics [CECIL84B], [MEDLEY79A], [MEDLEY85A], [CECIL90A], [CECIL92B], [KIPTILYI92A], [HAEGI95A],

- diagnostics development [WENZEL92A], and measurements on Doublet [NEWMAN84A], on JET [SADLER87A], [COTTRELL88B], [SADLER88A], [START88A], [HOWARTH94A], [RIGHI94A], [JARVIS95B] the installation on JET [CECIL94B], and on TFTR [CECIL87A], [MEDLEY90A], [MEDLEY92A], and a proposal for CIT [PETRASSO88A],

3.7 Ph.D. theses

[MCALEES74A], [CHRIEN81A], [HEIDBRINK84A], [MARTIN85A], [JAEGER86A], [BOSCH86C], [HOENEN86A], [MOBASHER86A], [LOVBERG87A], [SCHMIDT87A], [LOUGHLIN88A], [MURPHY88B], [BOMBA89A], [VANCALKER91A], [BOIVIN91B], [WISING92B],

3.8 Diagnostics development

- General issues [GORINI90A], [LO92A] (SBDs), Overview of neutron diagnostic methods [MILLER62A], [KAELLNE86A], [JARVIS94B], special fast neutron diagnostics for pulsed sources [YOUNG75A], radiation hardening [JOHNSON90A].

- Neutron diagnostics at JET [SWINHOE82A], [LEES86A], [SYME86A], [JARVIS87D], [JARVIS82C], [JARVIS91A], [ADAMS93A], [SADLER95B], for TFTR [HENDEL82B], for MTX [OGAWA90A], for Alcator C-Mod [FIORE90A], [FIORE92A], [FIORE95A], proposals for T-15 [ZAVERYAEV95A], for IGNITEX [BOOTH91A], and for NET [MARTONE88A], [BERTALOT88A].

- 2.45 MeV neutron flux measurement systems on PLT [STRACHAN77B], [STRACHAN81B], on ASDEX [ASSI81A], on TEXTOR [DELVIGNE90A], on FT [PODDA87A], on FT-U (with calibration) [ANGELONE90B], on JET [ARGYLE84A], [JARVIS81A], [JARVIS84B], on TFTR [ENGLAND85A], [KU89A], and reflections for next generation devices [JARVIS90A], [KAELLNE89A],

  descriptions of ionization chambers [GROSSHOEG79A], [SAILOR94A], fission chambers and related issues [BERTALOT87B], [KELLY82A], [VALENTINE83A], [VALENTINE85A], [BEST83A], [FOWLER79A],

  calibration of neutron counters on JET [JARVIS84A], [SWINHOE84A], [JARVIS85A], [SWINHOE85A], [JARVIS90B], [JARVIS90C], [LAUNDY93A] (numerical study)

  for TFTR [NIESCHMIDT85A], [HENDEL88A], [JASSBY88A], [BARNES90A], [HENDEL90A], [KU90A], [JASSBY95A], [BARNES95B], [JOHNSON95A], for ASDEX [HUEBNER89C], for TEXTOR [HOENEN91A], for FT [GENTILINI80A], [NICOLA82A], [PEDRETTI85A], for FT-U (measurements and calculations for the activation system) [ANGELONE91A], [BERTALOT92A], for JT60-U [NISHITANI92A], for CHS [ISOBE95A], new systems with Bonner spheres [BALOUI97A], issues of count rate control [ROQUEMORE92A], and the summary of a workshop on neutron detector calibrations [STRACHAN90B],

- NE213-scintillator: [OWEN62A], [FLYNN64A], [VERBINSKI68A], [WINYARD71A], [WINYARD72A], [DROSG72A], [JOHNSON77A], [ADAMS78A], [PERKINS79A], [CHUANG79A], [SLAUGHTER82A], [DICKENS85A], [BURRUS69A], [KNOX72A], [BARNES89A], [ELEVANT89A].

- 2.45 MeV neutron spectrometers [EVANS79A], [CHATELIER81A], [SWINHOE82C], [LORENZEN82A], [PINKAU82A], [HOENEN84A], [KAELLNE85A], [HOENEN86A], [SLAUGHTER86C], [HOENEN87A], [STRACHAN88A], [BIRCH88A], [DEGENHARDT91A],[BERTIN91A], [KAELLNE93A], ^{3}He spectrometer [SHALEV73A], [MOBASHER86A], [NISHITANI88A], [BEIMER86A], [BARNES89A], [LOUGHLIN89C], [DERZON86A], [FIEG88A], [FIEG89A], [FIEG90A], [FIEG90B], [NISHITANI90A], [FIEG91A], [FIEG92A], 2.5 MeV TOF spectrometer for JET [LORENZEN81A], [LORENZEN82B], [ELEVANT89B], [ELEVANT92A], [HAWKES93A], [HOEK92A], [OLSSON91A], and in general [MILLARD85A], [PRESZLER85A], [GORINI92A], scintillating fibre spectrometers [SAILOR95A], [WURDEN95A], [ELEVANT95D], 14 MeV neutron spectrometers [PILLON86A], [PILLON88C], [KAELLNE92D], [GORINI93A], [OSAKABE94A], [OSAKABE95A], [GORINI97A], 14 MeV TOF neutron spectrometer (JET) [ELEVANT81A], [ELEVANT84B], [ELEVANT85A],

  14 MeV neutron measurements with SBDs [MILLER67A], [MINGAY71A], [ELEVANT86A], [BOSCH88A], [RUSKOV95A], [ULLRICH96A], 14 MeV neutron scintillator [SMITH86A], [SMITH87A], [PILLON87B], [KU90B], [KU90C], [CROFT93A], double scatter TOF spectrometer [WALKER86A], selective neutron detector [CHRIEN80A], He^4 proportional counters [STRACHAN95A], scintillation detectors [CECIL92A], [HOEK92B], [HOENEN94A], Pb-glass scintillators [LERCHE90A], neutron scintillator spectrometer [DERZON85A], neutron spectrometry on JET [JARVIS86A],

  15 MeV proton detectors [STRACHAN86A], [DUONG90A], [LIERZER92A],

- neutron profile detector for NET [BATISTONI87D], and [BATISTONI87E], 14 MeV neutron profiles [KAELLNE92A], [VONGOELER96A], 14 MeV Neutron collimation [LILLIE79A], neutron profile detector array [SWINHOE82B],

- ICE emission from charged fusion products [COTTRELL86A], [COTTRELL88A], [SCHILD88A], [SCHILD88B], [DOOLING90A], [COTTRELL92A], [COTTRELL93A], [DENDY95A], [MCCLEMENTS95A],

- coincidence measurements [ELEVANT77A], [MURPHY86A], [MURPHY87A]

- activation systems [JARVIS82B], [NIESCHMIDT86A], [BERTALOT87A], [PILLON88A], [PILLON88B], [NIESCHMIDT88A], [BARNES90B] [JARVIS90C], [RUIZ92A], [HAGEMANN91A], and corresponding neutron transport calculations to calibrate such systems [ANGELONE90A], [BAETZNER90A], [HUEBNER94A], [BEIKERT95A], [BARNES95B].

  Si(n,p) activation [SADLER90B],

- delayed neutron counters [DHONDT86A], [VANBELLE90A], and data evaluation of neutron parameters for 14 MeV neutrons [ANGELONE91B]

- Alpha-particle diagnostics for JET [CONROY91A], [LOUGHLIN95A], charged fusion product diagnostics [ELEVANT84A], [BOSCH86A], [BOSCH86B], [BOSCH86C], [SIMMET89A], [ZAVERYAEV90A], [BOSCH90B], [LEINBERGER91A], [BOIVIN91B], [BOIVIN92A], [DARROW92B], [LIERZER92A], [LO95A],

- nuclear emulsion foils [MUEHLING82A], [MUEHLING84A], [COLLOPY92B], [LAPIN92A], [SADOWSKI94A], [SADOWSKI95A],[PHILLIPS97A], nuclear emulsion plates [BAETZNER85A], escaping alpha detectors [ZWEBEN86B], [MILEY87B], [ZWEBEN89A], [TUSZEWSKI92A], [TUSZEWSKI93A], [ZWEBEN92C] collector probe measurements of cfp [BASTASZ90A],

- neutron generator work [CECIL86B], [ROQUEMORE93A], neutron damage to detectors [EVANS76A], spectra from activation measurements [IKEDA89A], new activation reactions [SMITHER85A], background calculations [ALSMILLER84A], neutron calorimeter [JASSBY81A], [PROCTOR86A], ultrafast neutron detector [WANG85A], fast neutron ionisation detector [SAILOR94A], [HENDEL85A], [ROQUEMORE90A], [STRACHAN90A], [ADAMS93A], [ROQUEMORE95A], [BITTER97A], neutron fluctuation diagnostics [HEIDBRINK86B], X-ray tomography [MOSES88B], Magnetic proton recoil spectrometry [KAELLNE90A], [KAELLNE92C], [ERICSSON95A], [FRENJE95A], tritium measurements using β decay [ZWEBEN95A],

3.9 High energy ion confinement and burnup

- sawteeth and fast ion ejection/redistribution: [WISING92A], [KOLESNI92A], [ANDERSON93A], [MARCUS94A], [MARCUS94B], [JARVIS95A], [WOLLE96A], [KOLESNI95A], [ODBLOM95A],

- High energy ion confinement: ripple losses of fast ions [ROUBIN91A], [BOIVIN93A], [BOIVIN93B], [TUSZEWSKI88A], [SADLER92A], [TOBITA95B],
  fast ion losses in DIII-D discharges[HEIDBRINK91B], in JT60-U [TOBITA95A], in TFTR [ZWEBEN92A], [ZWEBEN92B], [ZWEBEN93A], [ZWEBEN94A], [ZWEBEN94B],
  spatially variable beam ion diffusion[RUSKOV96A],
  interaction with LH-waves [ANDRADE94A],
  and with Alfvén waves [BERK95A],

  triton confinement and losses in TFTR [ZWEBEN89A], [ZWEBEN89B], [ZWEBEN89C], [ZWEBEN90A], [ZWEBEN90B], [BOIVIN90A], with ICRH[DARROW96A],
  in DIII-D [DUONG93A],
  and in JET [GOODALL89A], [CARRUTHERS90A],

  diffusion of MeV ions [BOIVIN91A], [BOIVIN91B], [ZWEBEN91A], [ZWEBEN91B],

- High energy ion confinement during plasma instabilities: with fishbone instabilities [HEIDBRINK84B], [STRACHAN85B], [HEIDBRINK87C], [MARCUSM90A], [HEIDBRINK90B],
  beam-driven chirping instabilities [HEIDBRINK95A],
  during TAE's [DARROW92A], [DUONG93B], [FASOLI95A], [TURNBULL92A], [WONG92A], [TURNBULL93A], [APPEL95A], [FASOLI95B], [WONG96A],
  beam-driven Alfvén instabilities [HEIDBRINK91A],
  β-induces Alfvén Eigenmodes [HEIDBRINK93A],
  with pellet injection [HEIDBRINK86C], [HEIDBRINK87A],
  with sawteeth in JET [SADLER86A], [MARTIN87A],
  in PLT, DIII-D and TFTR [LOVBERG89A],
  in FT [BATISTONI90A],
  with adiabatic compression in TFTR [WONG85A], [KAITA86A]
  and in stellarators in general [ALLADIO91A], and prospects for[SATO95A],

- Energetic Particle driven instabilities [NAVE92A], [PORCELLI91A], [RAX93A], [HEIDBRINK95B], [CHENG95A],

- Triton and ^{3}He Burnup: One review [STRACHAN85A],
  background on high energy ion slowing down [JASSBY77A], [HIVELY80A], [PETRIE80A], [CHU85A],
  considerations on the spectral information [HEIDBRINK86D],
  effects of radial diffusion on triton burnup [ANDERSON91B], [ANDERSON92A],
  description of burnup codes [BITTONI87A], [BITTONI87B], [GORINI87A], [KOVANEN88A],

[GORINI88A], [ANDERSON88B], [BATISTONI87F], [BATISTONI90B], [KOVANEN90A], simulations for JET [LOUGHLIN94A],

and measurements in PLT [COLESTOCK79A], [HEIDBRINK83A], and PDX [HEIDBRINK83A], beam ion slowing down in Doublet-III [HEIDBRINK88A], [HEIDBRINK90A],
burnup in FT [BITTONI80A], [BITTONI85A], [BATISTONI87B], [BATISTONI87C], [PILLON87A], [BATISTONI89A],
in JET [BATISTONI87A], [KAELLNE87A], [KAELLNE88A], [BATISTONI88A], [CONROY88A], [CONROY89A], [CONROY90A], [JARVIS91B],
in TFTR [JASSBY87A], [BARNES88A], [MURPHY88A], [STRACHAN88B], [STRACHAN88C], [SCOTT90A], [BARNES95C], [STRACHAN95B],
in JT-60U [NISHITANI95A], [HOEK95A], [NISHITANI96A], [HOEK96A],
in ASDEX Upgrade [ULLRICH96A],
in TEXTOR [GADELMEIER97A],
in focus devices [BRZOSKO95A],

3.10 Prospects for alpha particle studies

in JET [CORDEY87A] and in TFTR [ZWEBEN87A], [ZWEBEN88A], [BUDNY95A], [STRACHAN88B], [ZWEBEN90D], in ignited machines in general [ZWEBEN90C],[ZWEBEN90D], prospects for BPX [SIGMAR92B], for IGNITEX [CARRERA90A], [CARRERA90B], for JT-60SU [OZEKI95A], and ITER [PUTVINSKI94A], [ZWEBEN95C],
Simulation of α-effects with ICRF [POST82A], [OGAWA86A], alpha-simulation experiments in JET [COTTRELL89C], [START89A], [START90A], and in TFTR [BUDNY91A], [BUDNY92A], including the excitation of Alfvén waves [WONG91A], and comparison with DT-experiments in [BUDNY94A], and a workshop summary [ENGELMANN89A],

3.11 DT-Experiments in JET and TFTR

- JET D-T experiments: overview on the PDTE1 [JET92A], [GIBSON92A], [JET92B],
  overview on the neutron measurements [JARVIS92A],
  neutron profiles [HOWARTH92A], [MARCUS92C], [MARCUS93A],
  Particle and energy transport in PDTE1 [BALET93A],
  and predictions for future DT experiments in JET [BALET94A],
  health physics aspects [CALDWELL92A],
  ICE measurements [COTTRELL92A], [COTTRELL93A],
  [COTTRELL94A], [DENDY95B],
  NPA measurements of αs [MCCLEMENTS97A],
  TAE Eigenmodes in JET [FASOLI95B],
  EAE Eigenmodes in JET [HEIDBRINK97B],

- D-T experiments in TFTR: fusion power production in TFTR[STRACHAN94A],
  overview of DT-operation [BELL95A], and of α-Physics [ZWEBEN97A],
  α-particle heating [TAYLOR96A],
  Tritium-transport [JOHNSON94A],
  α-particle losses [DARROW95A], [DARROW96B], [ZWEBEN95D],[CHANG97A],[HERRMANN97A],
  confined α-measurements with pellets [WURDEN94A], [FISHER95A], [PETROV95B], [MEDLEY96A], [FISHER97A],
  and with CXRS [MCKEE95A],
  escaping αs [ZWEBEN94A], [ZWEBEN95B],
  α-driven MHD [CHANG97A],
  collective α-effects on TAEs [WONG96A],
  [CHANG95A], [FREDRICKSON95A], [HEIDBRINK96A], [NAZIKIAN97A], [ZWEBEN96A],
  TAE stability studies [BATHA95A],
  limiter heating by αs [JANOS95A],
  14 MeV neutron emission [MCCAULEY92A],[MCCAULEY93A],
  DT radiation effects on diagnostics [RAMSEY95A],
  TF ripple loss of αs [REDI95A], [REDI95B],
  Alfvénic behaviour of ICE [DENDY95B], [CAUFFMAN95A],

modelling of enhanced beam transport [RUSKOV95B],
confined non-thermal αs [STRATTON96A], [STRATTON97A],

3.12 Alpha particle diagnostics

- Overviews [POST86A], [ZWEBEN86A], [SCHUMACHER87A], [JARVIS87A], [SATO87A], [ANDERSON88A], [YOUNG92A], theoretical aspects [KARULIN85A], [SIGMAR88A], plans for JT-60U [KUSAMA90A],
- and diagnostics poposals: Charge exchange with diagnostic beams [POST81A], [GRISHAM83B], [GRISHAM83C], [SASAO86B], [SCHLACHTER88A], [FRIELING90A], [GORELENKOV91A], [IZVOZCHIKOV91A], [KHUDOLEEV92A], [PETROV92A], [PETROV95A], [KOROTKOV92B] (He stopping cross-sections), [KOROTKOV95A] (impurity induced neutralisation).
- CXRS [HELLERMANN87A], [HELLERMANN90A], [HELLERMANN92A], [HELLERMANN92B], [STRATTON92A],
- CO_2 laser scattering [RICHARDS87A], [RICHARDS88A], [HUTCHINSON85A], [HUTCHINSON87A], [NAGATSU87A], [UCHINO87A], [COSTLEY88A], [HUGHES89A], [ORSITTO88A], [BINDSLEV91A], [HOEKZEMA90A], [MACHUZAK92A], [HOEKZEMA95A], [HUGHES87A], [ORSITTO92A], [HOEKZEMA95B], [HOEKZEMA96A], [BINDSLEV96A]
- millimeter-wave scattering [WOSKOV87A], [WOSKOV87B], [WOSKOV87C], [WOSKOV88A], [VAHALA88A], [COSTLEY88A], [BARKLEY88A], [MACHUZAK90A], [SHEFER90A], [MACHUZAK92A], [MACHUZAK95A], [RHEE92A], calculations of the scattering spectra [TARTARI90A].
- pellet injection [SASAO86A], [SASAO87A], [FISHER88A], [PARKS88A], [FISHER89A], [FISHER90A], [GERDIN87A], [FISHER92A], [FISHER94A], [FISHER95B],
- gamma rays from fusion reactions [CECIL86A], [CECIL86C], [KIPTILYJ90A], [KIPTILYJ90B].
- miscellaneous techniques: damping of lower hybrid waves [WONG85B], [BARBATO89A], [WONG89A], [FISCH92A], and on IBW [FISCH94A], scattering on α-induced fluctuations [AAMODT90A], [WONG91B], collector probes [CECIL94A], [HERRMANN95A], neutron measurements [KAELLNE92B], nuclear techniques [SLAUGHTER85A], [ELEVANT87A], Ion Cyclotron Emission [MOSES88A], [COTTRELL94A],

3.13 Diagnostic proposals for ITER

Neutron monitors [BARNES97A],
Collectice Thomson Scattering of α-particles [ORSITTO95A], [TARTARI95A],
neutron spectrometry [ELEVANT95A], [ELEVANT95B], [ELEVANT95C], [KAELLNE95A], [KAELLNE95B], [NISHITANI95B], [WOLSKI92A],
neutron camera [TRANEUS95A], [MARCUS95B], [TRUSILLO95A],
diamond based spectrometers [KRASILNIKOV95A],
CXS [KOROTKOV92A],
γ-diagnostics [KIPTILYI95A],
power and position control [NAVARRO95A], [NAVARRO95B],
α-measurements with knock-on tails [FISHER95B],
α-slowing down measurements [FUBINI95A],
He^0-diagnostic beam [SASAO95A], [SASAO95B]

3.14 Theories on alpha particle behaviour

- General reviews [KOLESNI80A], [POST84A], [SIGMAR87A], [SIGMAR88A], [ANDERSON88A], [SIGMAR90A], [BISHOP91A], [SIGMAR91A], [SIGMAR92A], a review on collective processes [MIKHAIL86A],
- and investigations of specific aspects, concerning alpha confinement in tokamaks [BELIKOV81A], [GOLDSTON81A], [BITTONI82A], [ENGLAND84A], [MYNICK88A], [WHITE89A], [WHITE89B], [DILLNER91A] and stellarators [ALLADIO92A].

- orbit calculations [DHAESELEER90A], in divertor plasmas [BATISTONI92A], losses during sawteeth [ANDERSON90A], α-heating in presence of sawteeths [KOLESNI92B], and with anomalous α-diffusion [SIGMAR93B],

- ripple-effects [HIVELY84A], [KALADZE87A], [BITTONI90A], [GOLO90B], [BITTONI92A], ripple in stellarators [NAGORNYJ90A], helical perturbations in tokamaks [KONOVALOV90A].

- stochastic losses [BULANOV90A], collisional losses [GOLOBORODKO95A], slowing down and energy distribution [HAMNEN85A], [CATTO87A], [CATTO88A], [CATTO88B], [KAMELANDER92A], [SCHIVELL92A], [OBRIEN95A].

- α-particle transport [GOLO87A], [MILEY87A], [KAMELANDER89A], [BELIKOV89A], [KAMELANDER91A], [KAMELANDER91B], [SCHIVELL92A], kinetic description of fast ions transport [GOLO90A], [SAGER90A], influence on the plasma edge [MILEY84A], influence on the ion energy distribution [RYUTOV92A], influence on toroidal rotation [KOLESNI90A].

- reactor conditions [ENGELMANN87A], [UCKAN88A], [WILHELMS87A], [ZAJTSEV86A], burn control and thermal stability in tokamaks [HANEY90A], and in mirrors [MIZUNO90A], [ANDERSON91A], passive burn control based on the toroidal field ripple [TANI90A].

- instabilities [ANDERSON84A], [LI85A], [ANDRUSH90A], [SIGMAR79A], [SPONG87A], [WEILAND87A] [REWOLDT88A],[ANDERSON89A],[CHENG89A], [COPPI89A], [BELIKOV90A], [BETTI90A], [FU89A], [VANDAM90A], [WHITE90A], [SPONG90A], [KAMELANDER95A], instabilites and ICE [GORELENKOV95A], Alfv'en Eigenmodes, [CHENG90D], [BIGLARI91A], [SPONG92A], [ZONCA93A], [VLAD95A], [WHITE95A], [WONG95A], TAE thresholds [SPONG95A], interaction with MHD-instabilities [CHENG90A], [CHENG90B], [CHENG90C], [CHENG91A], [REWOLDT91A], interaction of alpha-particles with ICRF [YAMAGIWA88A], [CHANG90A], [CHIU90A], with fast magnetosonic waves [KALADZE90A], [KASILOV92A], with fast waves (Current Drive) [MAU89A], α-channeling [FISCH95A], stabilising effect of trapped particles [MEDVEDEV92A], of α-particles and ICRH-heated Ions [MCCLEMENTS95B], escaping particles [GOLO89A], [HIVELY77B].

- studies of He-transport [KAMELANDER90A], [KRASHENI90A], [MILEY90A], and theoretical investigations on the Helium ash problem: [REITER90A], [BEHRISCH90A], [TAYLOR90A], [REDI90A], [REDI90B], [REDI91A], [PROZESKY93A].

References

[AAMODT90A] R. E. Aamodt and D. A. Russell, "Scattering of Radiation by Alpha Particle Induced Fluctuations", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3211–3213.

[ABE87A] M. Abe, M. Nagami, T. Hirayama, A. Kameari, A. Kitsunezaki, S. Konoshima, M. Shimada, T. Angel, F. Blau, R. Chase, and E. Fairbanks, "Scaling of the Thermonuclear Fusion Neutron Yield in the DOUBLET III Tokamak", *Nuclear Fusion*, **27**, (1987), pp. 963–972.

[ABRAMOVICH91A] S. N. Abramovich, B. Ya. Guzhovskij, V. A. Zherebtsov, and A. G. Zvenigorodskij. Nuclear Physics Constants for Thermonuclear Fusion - A Reference Handbook (in Russian); English Translation: IAEA report INDC(CCP)-326/L+F (March 1991).

[ABRAMOVICH91B] S. N. Abramovich, B. Ja. Guzhovskii, S. A. Dunaeva, and E. F. Fomushkin. "Rates of the Main Thermonuclear Reactions". in S. M. Quaim, editor, *Nuclear Data for Science and Technology*, pp. 961–964. Springer, Berlin, 1992.

[ADAMS78A] J. M. Adams and G. White, "A Versatile Pulse Shape Discriminator for Charged Particle Separation and its Application to Fast Neutron Time-of-Flight Spectroscopy", *Nuclear Instruments and Methods*, **156**, (1978), pp. 459–476.

[ADAMS87A] J. M. Adams, O. N. Jarvis, J. Källne, G. Sadler, D. B. Syme, M. T. Swinhoe, N. Watkins, P. van Belle, and K. Verschuur, "First Measurements of Neutron Emission Profiles on JET", in *Proc. of the 14th European Conference on Controlled Fusion and Plasma Physics, Madrid, 1987*, (EPS, Petit-Lancy, 1987), Vol. 11D of *Europhysics Conference Abstracts*, pp. 1224–1227. Part III.

[ADAMS89A] J. M. Adams, A. Cheetham, S. Conroy, G. Gorini, N. Gottardi, T. Iguchi, O. N. Jarvis, G. Sadler, P. Smeulders, N. Watkins, and P. van Belle, "Radial Profiles of Neutron Emission from Ohmic Discharges in JET", in *Proc. of the 16th European Conference on Controlled Fusion and Plasma Physics, Venice, 1989*, (EPS, Petit-Lancy, 1989), Vol. 13B of *Europhysics Conference Abstracts*, pp. 63–66. Part I.

[ADAMS91A] J. M. Adams, B. Balet, D. A. Boyd, D. J. Campbell, C. D. Challis, J. P. Christiansen, J. G. Cordey, W. G. F. Core, A. E. Costley, G. A. Cottrell, A. W. Edwards, T. Elevant, L.-G. Eriksson, T. Hellsten, O. N. Jarvis, P. P. Lallia, K. Lawson, C. Lowry, P. Nielsen, G. Sadler, D. F. H. Start, P. R. Thomas, M. von Hellermann, and H. Weisen, "Studies of D-D Fusion Reactivity in High Temperature JET Plasmas", *Nuclear Fusion*, **31**, 5, (1991), pp. 891–905. preprint in JET-P(90)10, March 1990.

[ADAMS93A] J. M. Adams, O. N. Jarvis, G. J. Sadler, D. B. Syme, and N. Watkins, "The JET Neutron Emission Profile Monitor", *Nuclear Instruments and Methods in Physics Research*, **A329**, (1993), pp. 277–290. preprint in JET-P(92)27, May 1992.

[AIKAWA87A] H. Aikawa, I. Yonekawa, H. Kaminaga, and JT-60 Team, "Estimation of X-Ray and Neutrons Caused by Runaway Electrons in JT-60", in *Proc. of the 12th Symposium on Fusion Engineering, Monterey, 1987*, (IEEE, New York, 1988), Vol. II, pp. 1336–1340.

[ALLADIO91A] F. Alladio, P. Batistoni, and S. Mancuso, "Charged Particle Injection and Fusion Product Escape in Separatrix Stellarators", in *Proc. of the 18th European Conference on Controlled Fusion and Plasma Physics, Berlin, 1991*, (EPS, Petit-Lancy, 1991), Vol. 15C of *Europhysics Conference Abstracts*, pp. 117–120. Part II.

[ALLADIO92A] Franco Alladio, Paola Batistoni, and Alessandro Mancuso, "Collisionless Alpha-Particle Confinement and Loss Distribution in Stellarators as a Function of the Aspect Ratio", *Fusion Technology*, **22**, (1992), pp. 474–481.

[ALLRED51A] J. C. Allred, "Differential Cross Section of the Reaction $He^3(d,p)He^4$ at 10.2 MeV Bombarding Energy and Search for Excited State in He^4", *Physical Review*, **84**, 4, (1951), pp. 695–699.

[ALSMILLER84A] R. G. Alsmiller, Jr., R. T. Santoro, J. F. Manneschmidt, and J. M. Barnes, "Background Calculations for the Measurement of the Ion Temperature in a Deuterium Plasma", Report No. ORNL/TM-9230, ORNL, Oak Ridge, TN, July 1984.

[ANDERSON84A] D. Anderson and M. Lisak, "Quasilinear Theory of the Thermonuclear Magneto-Acoustic Cone Instability", *Physics of Fluids*, **27**, 4, (1984), pp. 925–934.

[ANDERSON88A] D. Anderson, H. Hamnén, and M. Lisak, "Thermonuclear Tokamak Plasmas in the Presence of Fusion Alpha Particles", Report No. CTH-IEFT/PP–1988–03, Chalmers University of Technology Gothenburg, Sweden, 1988.

[ANDERSON88B] D. Anderson and P. Batistoni, "Calculation of Triton Confinement and Burnup in Tokamaks", *Nuclear Fusion*, **28**, 12, (1988), pp. 2151–2159.

[ANDERSON89A] D. Anderson and M. Lisak, "Alpha Particle Losses During Sawtooth Activity in Tokamaks", in *Proc. of the 16th European Conference on Controlled Fusion and Plasma Physics, Venice, 1989*, (EPS, Petit-Lancy, 1989), Vol. 13B of *Europhysics Conference Abstracts*, pp. 537–540. Part II.

[ANDERSON90A] D. Anderson and M. Lisak, "Variation of Prompt Alpha Particle Losses During Sawtooth Activity in Tokamaks", *Plasma Physics and Controlled Fusion*, **32**, 2, (1990), pp. 141–153.

[ANDERSON91A] D. Anderson, M. Lisak, and Ya. Kolesnichenko, "Burn Stability of Tokamak Fusion Plasmas with Synergetic Current Drive", *Plasma Physics and Controlled Fusion*, **33**, 5, (1991), pp. 455–467.

[ANDERSON91B] D. Anderson, P. Batistoni, and M. Lisak, "Influence of Radial Diffusion on Triton Burnup", *Nuclear Fusion*, **31**, 11, (1991), pp. 2147–2153. preprint in RT-NUCL-90-30, 1990, a mistake in eq. 13 is corrected in ANDERSON92A.

[ANDERSON92A] D. Anderson, P. Batistoni, and M. Lisak, "Effects of Radial Diffusion on Triton Burn up", *Physica Scripta*, **45**, (1992), pp. 138–146.

[ANDERSON93A] D. Anderson, P. Batistoni, M. Lisak, and F. Wising, "Fast-Ion Redistribution at Sawtooth Crashes as Inferred from Triton Burn-Up Measurements", *Plasma Physics and Controlled Fusion*, **35**, (1993), pp. 733–742.

[ANDRADE94A] M. C. Ramos de Andrade, M. Brusati, Y. Baranov, L. G. Eriksson, C. Gormezano, E. Righi, F. Rimini, and G. Sadler, "Interaction of Lower Hybrid Waves with Fast Ions in JET", *Plasma Physics and Controlled Fusion*, **36**, (1994), pp. 1171–1188.

[ANDRUSH90A] Zh. N. Andrushchenko, A. Ya. Bojko, and O. K. Cheremnykh, "Alpha-Particle Effects on Ballooning Flute Modes in Tokamaks", *Fusion Technology*, **18**, 3, (1990), pp. 475–486.

[ANGELONE90A] M. Angelone, P. Batistoni, L. Bertalot, B. Esposito, M. Martone, M. Pillon, S. Podda, M. Rapisarda, and S. Rollet, "Experimental and Numerical Calibration of the Neutron Activation System on the FTU Tokamak", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3157–3159.

[ANGELONE90B] M. Angelone, P. Batistoni, L. Bertalot, B. Esposito, M. Martone, S. Podda, M. Pillon, M. Rapisarda, and S. Rollet, "Calibration of the Neutron Yield Measurement Sytem on FTU Tokamak", *Review of Scientific Instruments*, **61**, 11, (1990), pp. 3536–3539.

[ANGELONE91A] Maurizio Angelone, Paola Batistoni, Marcello Martone, Mario Pillon, Massimo Rapisarda, and Sofia Rollet, "Calibration of the Neutron Activation System on the Frascati Tokamak Upgrade : Comparison between Measured and Calculated Activation Response Coefficients", *Fusion Technology*, **19**, 3, (1991), pp. 431–439.

[ANGELONE91B] M. Angelone, "Evaluation of Delayed Neutron Parameters for the D–T Operation Phase at JET", Report No. JET-IR(91)09, JET, Culham, GB, October 1991. Not for publication.

[APPEL95A] L. C. Appel, H. L. Berk, D. Borba, B. Breizman, T. C. Hender, G. T. A. Huysmans, W. Kerner, M. Pekker, S. D. Pinches, and S. E. Sharapov, "Alfvén Eigenmode Induced Energetic Particle Transport in JET", *Nuclear Fusion*, **35**, 12, (1995), pp. 1697–1706. preprint in JET-P(95)26, July 1995.

[ARGO52A] H. V. Argo, R. F. Taschek, H. M. Agnew, A. Hemmendinger, and W. T. Leland, "Cross Sections of the D(T,n)He^4 Reactions from 80- to 1200-keV Tritons", *Physical Review*, **87**, 4, (1952), pp. 612–618.

[ARGYLE84A] J. Argyle, "KN1 - Data Aquisition and Control Systems Handbook", Report No. AERE G.3200, A.E.R.E. Harwell, GB, July 1984. Not for Publication (Commercial).

[ARNOLD53A] W. R. Arnold, J. A. Phillips, G. A. Sawyer, E. J. Stovall, Jr., and J. L. Tuck, "Absolute Cross Section for the Reaction T(d,n)He^4 from 10 to 120 keV", Report No. LA–1479, Los Alamos Scientific Laboratory, NM, 1953. unpublished.

[ARNOLD54A] W. R. Arnold, J. A. Phillips, G. A. Sawyer, E. J. Stovall, Jr., and J. L. Tuck, "Cross Sections for the Reactions D(d,p)T, D(d,n)^{3}He, T(d,n)^{4}He, and ^{3}He(d,p)^{4}He below 120 KeV", *Physical Review*, **93**, 3, (1954), pp. 483–497.

[ARTHUR91A] E. D. Arthur, M. B. Chadwick, G. M. Hale, and P. G. Young. "Nuclear Models Relevant to Evaluation". in S. M. Quaim, editor, *Nuclear Data for Science and Technology*, pp. 759–767. Springer, Berlin, 1992.

[ARTSIMO72A] L. A. Artsimovich, A. M. Anashin, E. P. Gorbunov, D. P. Ivanov, M. P. Petrov, and V. S. Strelkov, "Investigation of Plasma Neutron Radiation from the Tokamak T-3A Installation", *Soviet Physics JETP*, **34**, 2, (1972), pp. 306–309.

[ASSI81A] G. Assi and H. Rapp, "A Neutron Flux Measurement System for ASDEX", Report No. IPP-III/70, IPP, Garching, FRG, March 1981.

[BAETZNER85A] R. Bätzner and K. Hübner, "Nuclear Emulsion Plates in Support of Neutron Diagnostics at JET", Report No. JE 2/9012, IAP Heidelberg University, FRG, 1985.

[BAETZNER89A] R. Bätzner, K. Hübner, L. Ingrosso, S. Bosch, H. Rapp, B. Wolle, C. van Calker, B. V. Robouch, J. Kucinski, and J. S. Brzosko, "Absolute Neutron Yield Determination for ASDEX Using In Activation and Monte Carlo Calculations", in *Proc. of the 16th European Conference on Controlled Fusion and Plasma Physics, Venice, 1989*, (EPS, Petit-Lancy, 1989), Vol. 13B of *Europhysics Conference Abstracts*, pp. 1449–1452. Part IV.

[BAETZNER90A] R. Bätzner, K. Hübner, L. Ingrosso, R. Wagner, B. Bomba, S. Bosch, J. Kucinski, B. V. Robouch, J. S. Brzosko, C. van Calker, H. Klein, and S. Guldbakke, "Absolute Determination of High Neutron Yields for ASDEX", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 1520–1523. Part IV.

[BALABANOV57A] E. M. Balabanov, I. Ia. Barit, L. N. Katsaurov, I. M. Frank, and I. V. Shtranikh, "Measurements of the Yields and Effective Cross Sections of the D(t,n)He^4 and D(d,p)T Reactions Using Thick Targets of Heavy Ice", *Supplement No. 5 of Sov. J. At. Energy, Atomnaya Energiya (1957)*, pp. 37–42.

[BALABANOV57B] E. M. Balabanov, I. Ia. Barit, L. N. Katsaurov, I. M. Frank, and I. V. Shtranikh, "Measurement of the Effective Cross Section for the D(t,n)He^4 Reaction in the Deuteron Energy Range 40-730 keV", *Supplement No. 5 of Sov. J. At. Energy, Atomnaya Energiya (1957)*, pp. 43–52.

[BALET93A] B. Balet, P. M. Stubberfield, D. Borba, J. G. Cordey, N. Deliyanakis, C. M. Greenfield, T. T. C. Jones, R. König, F. B. Marcus, M. F. F. Nave, et al., "Particle and Energy Transport During the First Tritium Experiments on JET", *Nuclear Fusion*, **33**, 9, (1993), pp. 1345–1363.

[BALET94A] B. Balet, J. G. Cordey, A. Gibson, P. Lomas, P. M. Stubberfield, and P. Thomas, "Fusion Performances and Alpha Heating in Future JET D-T Plasmas", in E. Joffrin, P. Platz, and P. E. Stott, editors, *Europhysics Conference Abstracts (Proc. of the 21th EPS Conference on Controlled Fusion and Plasma Physics, Montpellier, 1994)*, (EPS, Geneva, 1994), Vol. 18B, part I, pp. 58–61.

[BALLABIO97A] L. Ballabio, G. Gorini, and J. Kallne, "Energy Spectrum of Thermonuclear Neutrons", *Review of Scientific Instruments*, **68**, 1, (1997), pp. 585–588.

[BALOUI97A] T. Baloui, B. Wolle, and K. Hübner, "A New Compact Detector System for Collimated D-D Neutron Flux Measurements", in M. Schittenhelm, R. Bartiromo, and F. Wagner, editors, *Europhysics Conference Abstracts (Proc. of the 24th EPS Conference on Controlled Fusion and Plasma Physics, Berchtesgaden, 1997)*, (EPS, Petit-Lancy, 1997), Vol. 21A, part IV, pp. 1757–1760.

[BAME57A] S. J. Bame, Jr. and J. E. Perry, Jr., "T(d,n)He^4 Reaction", *Physical Review*, **107**, 6, (1957), pp. 1616–1620.

[BARBATO89A] E. Barbato and F. Santini, "Quasilinear Absorption of LH Waves by Fusion-Generated Alpha-Particles", *Nuclear Fusion*, **31**, 4, (1991), pp. 673–685. preprint in ENEA-report RT/FUS/89/13, October 1989.

[BARKLEY88A] H. J. Barkley, W. Kasparek, G. A. Müller, L. Rebuffi, P. G. Schüller, and M. Thumm, "Feasibility Study on a High Power (1 MW) Millimetre-Wave (140 GHz) Transmission System for Diagnostics of Fusion α-Particles in JET By Collective Millimetre-Wave Scattering", Report No. JET-R(88)14, JET, Culham, GB, 1988.

[BARNES88A] Cris W. Barnes, H.-S. Bosch, E. B. Nieschmidt, T. Saito, M. Bitter, et al., "Triton Burnup Studies on TFTR", in *Proc. of the 15th European Conference on Controlled Fusion and Plasma Heating, Dubrovnik, 1988*, (EPS, Petit-Lancy, 1988), Vol. 12B of *Europhysics Conference Abstracts*, pp. 87–90. Part I.

[BARNES89A] Cris W. Barnes and J. D. Strachan, "1987 Calibration of the TFTR Neutron Spectrometers", *Review of Scientific Instruments*, **61**, 9, (1990), pp. 2383–2395. preprint in PPPL-2665, December 1989.

[BARNES90A] Cris W. Barnes, M. G. Bell, H. W. Hendel, D. L. Jassby, D. Mikkelsen, A. L. Roquemore, S. D. Scott, J. D. Strachan, and M. C. Zarnstorff, "Absolute Calibration of Neutron Detection Systems on TFTR and Accurate Comparison of Source Strength Measurements to Transport Simulations", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3151–3156.

[BARNES90B] Cris W. Barnes, E. B. Nieschmidt, A. G. A. Huibers, L. P. Ku, R. W. Motley, and T. Saito, "Operation and Cross Calibration of the Activation Foil System on TFTR", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3190–3192.

[BARNES95A] Cris W. Barnes, Alvin R. Larson, G. L. LeMunyan, and M. J. Loughlin, "Measurements of DT and DD Neutron Yields by Neutron Activation on the Tokamak Fusion Test Reactor", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 888–890.

[BARNES95B] Cris W. Barnes, Alvin R. Larson, and A. L. Roquemore, "Calculations of Neutron Activation Response for the Tokamak Fusion Test Reactor, and Absolute Calibrations of Neutron Yield", *Fusion Technology*, **30**, (1996), pp. 63–72.

[BARNES95C] Cris W. Barnes, H.-S. Bosch, H. W. Hendel, A. G. A. Huibers, D. L. Jassby, R. W. Motley, E. B. Nieschmidt, T. Saito, J. D. Strachan, M. Bitter, R. V. Budny, K. W. Hill, D. K. Mansfield, D. C. McCune, R. Nazikian, H. K. Park, A. T. Ramsey, S. D. Scott, G. Taylor, and M. C. Zarnstorff. "Triton Burnup Measurements and Calculations on TFTR", 1995. (submitted for publication).

[BARNES95D] Cris W. Barnes, Hau H. Duong, D. L. Jassby, L. C. Johnson, A. R. Larson, G. LeMunyan, M. J. Loughlin, A. L. Roquemore, S. Sesnic, J. D. Strachan, S. von Goeler, and G. A. Wurden. "DT Neutron Measurements And Experience On TFTR". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 379–383. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[BARNES97A] Cris W. Barnes and A. L. Roquemore, "Neutron Source Strength Monitors for ITER", *Review of Scientific Instruments*, **68**, 1, (1997), pp. 573–576.

[BASTASZ90A] Robert Bastasz, Dean Buchenauer, and Stewart Zweben, "Collector Probe Measurement of Fusion Tritons in TFTR", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3199–3201.

[BATHA95A] S. H. Batha, F. M. Levinton, D. A. Spong, R. V. Budny, Z. Chang, et al., "Experimental Study of Toroidicity Induced Alfvén Eigenmode (TAE) Stability at High q(0)", *Nuclear Fusion*, **35**, 12, (1995), pp. 1463–1468.

[BATISTONI87A] P. Batistoni, M. Martone, M. Pillon, M. Rapisarda, J. Argyle, G. Huxtable, D. B. Syme, E. Bittoni, K. Verschuur, G. Gorini, O. N. Jarvis, J. Källne, and G. Sadler, "Studies of Tritium Burn-Up in JET Deuterium Discharges", in *Proc. of the 14th European Conference on Controlled Fusion and Plasma Physics, Madrid, 1987*, (EPS, Petit-Lancy, 1987), Vol. 11D of *Europhysics Conference Abstracts*, pp. 1228–1231. Part III.

[BATISTONI87B] P. Batistoni, M. Martone, M. Pillon, S. Podda, and M. Rapisarda, "Measurements of Triton Burn-Up in low q Discharges in the FT Tokamak", in *Proc. of the 14th European Conference on Controlled Fusion and Plasma Physics, Madrid, 1987*, (EPS, Petit-Lancy, 1987), Vol. 11D of *Europhysics Conference Abstracts*, pp. 1268–1270. Part III.

[BATISTONI87C] P. Batistoni, M. Martone, M. Pillon, S. Podda, and M. Rapisarda, "Measurements of Triton Burn Up in low q Discharges in the FT Tokamak", *Nuclear Fusion*, **27**, 6, (1987), pp. 1040–1043.

[BATISTONI87D] P. Batistoni, "Calculations of Total Fusion Power and Spatial Distribution of Emissivity for a D-T Thermal Plasma, Part I", Report No. RT/FUS/86/12, ENEA Frascati, Italy, 1987.

[BATISTONI87E] P. Batistoni and M. Pillon, "Calculations of Total Fusion Power and Spatial Distribution of Emissivity for a D-T Thermal Plasma (Part II)", Report No. RT/FUS/87/6, ENEA, Frascati, Italy, 1987.

[BATISTONI87F] P. Batistoni, M. Haegi, and E. Bittoni, "The Confinement and Burn-Up of Fusion Produced Tritons in the FT Tokamak", Report No. RT/FUS/87/24, ENEA, Frascati, Italy, November 1987.

[BATISTONI88A] P. Batistoni, J. Argyle, S. Conroy, G. Gorini, G. Huxtable, O. N. Jarvis, J. Källne, M. Martone, M. Pillon, S. Podda, M. Rapisarda, G. Sadler, D. B. Syme, P. van Belle, and K. Verschuur, "Measurement and Interpretation of Triton Burnup in JET Deuterium Plasmas", in *Proc. of the 15th European Conference on Controlled Fusion and Plasma Heating, Dubrovnik, 1988*, (EPS, Petit-Lancy, 1988), Vol. 12B of *Europhysics Conference Abstracts*, pp. 135–138. Part I.

[BATISTONI89A] P. Batistoni, E. Bittoni, and M. Haegi, "Triton Confinement as Inferred from Fusion Produced Neutron Measurements in the FT Tokamak", *Nuclear Fusion*, **29**, 4, (1989), pp. 673–679.

[BATISTONI90A] P. Batistoni, M. Rapisarda, and D. Anderson, "Measurement and Analysis of Neutron Sawteeth on the Frascati Tokamak", *Nuclear Fusion*, **30**, 4, (1990), pp. 625–633. preprint in RT/FUS/89/7, July 1989.

[BATISTONI90B] P. Batistoni and Cris W. Barnes, "Computation of Classical Triton Burnup with High Plasma Temperature and Current", *Plasma Physics and Controlled Fusion*, **33**, 14, (1991), pp. 1735–1756. preprint in PPPL-2706, Sept. 1990.

[BATISTONI92A] P. Batistoni and S. E. Segre, "The Effect of a Poloidal Field Null on Alpha-Particle Orbits in Axisymmetric Tokamaks", *Physica Scripta*, **45**, (1992), pp. 173–176.

[BATISTONI96A] P. Batistoni, P. Corsaro, S. Rollet, and M. Zucchetti, "Ignitor Neutronics and Activation", *Fusion Engineering and Design*, **31**, (1996), pp. 53–68.

[BAYETTI86A] P. Bayetti, F. Bottiglioni, G. Martin, and J. Paméla, "Charged Fusion Product Analysis as Diagnostics in High–Energy Deuterium Beams", *Review of Scientific Instruments*, **57**, 1, (1986), pp. 62–66. preprint in EUR-CEA-FC-1266, May 1985.

[BEHRISCH90A] R. Behrisch and V. Prozesky, "Particle and Power Exhaust for a Fusion Plasma", *Nuclear Fusion*, **30**, 10, (1990), pp. 2166–2170.

[BEIKERT95A] G. Beikert, B. Wolle, Z. Jauch, T. Baloui, and K. Hübner, "Refined Numerical Modelling of Fusion Product Measurements", in B.E. Keen, P.E. Stott, and J. Winter, editors, *Europhysics Conference Abstracts (Proc. of the 22th EPS Conference on Controlled Fusion and Plasma Physics, Bournemouth, 1995)*, (EPS, Geneva, 1995), Vol. 19C, part III, pp. 201–204.

[BEIMER86A] Klaes-Håkan Beimer, Göran Nyman, and Olof Tengblad, "Response Function for ^{3}He Neutron Spectrometers", *Nuclear Instruments and Methods in Physics Research*, **A245**, (1986), pp. 402–414.

[BELIKOV81A] V. S. Belikov, Ya. I. Kolesnichenko, and V. A. Yavorskij, "Confinement of Alpha Particles in Tokamak Reactors", *Nuclear Fusion*, **21**, 10, (1981), pp. 1311–1316.

[BELIKOV89A] V. S. Belikov, Ya. I. Kolesnichenko, and V. A. Yavorskij, "Overview of Transport Processes of High-Energy Alpha Particles in Tokamaks", *Fusion Technology*, **15**, (1989), pp. 1365–1374.

[BELIKOV90A] V. S. Belikov, "Thermonuclear Cone Alfvén Instability in Tokamak Reactors", *Fusion Technology*, **18**, 3, (1990), pp. 436–442.

[BELL95A] M.G. Bell, K.M. McGuire, V. Arunasalam, C. W. Barnes, S. H. Batha, et al., "Overview of DT Results from TFTR", *Nuclear Fusion*, **35**, 12, (1995), pp. 1429–1436.

[BERK95A] H. L. Berk, B. N. Breizman, and M. S. Pekker, "Simulation of Alfvén-Wave-Resonant-Particle Interaction", *Nuclear Fusion*, **35**, 12, (1995), pp. 1713–1720.

[BERTALOT87A] L. Bertalot and M. Pillon, "Feasibility of the Activation Techniques for Neutron Measurements in the NET-Blanket", Report No. RT/FUS/87/1, ENEA, Frascati, Italy, 1987.

[BERTALOT87B] L. Bertalot, "Magnetic Influence on Fission Chambers", Report No. RT/FUS/87/10, ENEA, Frascati, Italy, 1987.

[BERTALOT88A] L. Bertalot, M. Martone, and P. Pillon, "Analysis and Preliminary Design of Neutron Diagnostics for NET (Second Part): Blanket–Diagnostics", Report No. EUR-FU/XII-80/88-87, NET, Garching, FRG, July 1988.

[BERTALOT92A] L. Bertalot, B. Esposito, S. Podda, and S. Rollet, "Improved Calibration of the Neutron Yield Measurement System on the FTU Tokamak", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4554–4557.

[BERTIN91A] A. Bertin, M. Bruschi, D. Bulgarelli, M. Capponi, I. D'Antone, S. De Castro, D. Galli, U. Marconi, M. Morganti, C. Moroni, et al., "A Novel Coincidence Neutron Spectrometer with Neutron-Gamma Pulse-Shape Discrimination", *Muon Catalyzed Fusion*, **6**, (1991), pp. 395–403.

[BEST83A] D. A. Best and E. P. Fowler, "On Screens and Layout for Instrument Circuits", *The Radio and Electronic Engineer*, **53**, (1983), pp. 147–152.

[BETTI90A] R. Betti and J. P. Freidberg, "A Stability Criterion for Energetic Particle-Alfvén Modes", *Physics of Fluids B: Plasma Physics*, **3**, 3, (1991), pp. 538–544. preprint in MIT-report PFC/JA-90-27, August 1990.

[BIGLARI91A] H. Biglari, F. Zonca, and L. Chen, "On Resonant Destabilization of Toroidal Alfvén Eigenmodes by Circulating and Trapped Energetic Ions/Alpha Particles in Tokamaks", *Physics of Fluids B: Plasma Physics*, **4**, 8, (1992), pp. 2385–2388. preprint in PPPL-2789, July 1991.

[BINDSLEV91A] H. Bindslev and F. R. Hansen, "Numerical Investigations of the Propagation of Electromagnetic Millimeter Waves in a Fluctuating Plasma : Impact of Density Fluctuations on JET Alpha Particle Diagnostic", Report No. JET-IR(91)02, JET, Culham, GB, November 1989. Not for publication.

[BINDSLEV96A] H. Bindslev, J. Egedal, J. Fessey, J. Hoekzema, and T. Hughes, "Collective Thomson Scattering of Millimetre Waves in JET", Report No. JET-P(96)47, JET, Culham, GB, September 1996. submitted for Publ. Proc. 3rd Int. Workshop on Strong Microwaves in Plasmas.

[BIRCH88A] R. Birch, "An Alpha-Recoil Proportional Counter to Measure Neutron Energy Spectra Between 2 MeV and 15 MeV", Report No. AERE R 13002, AERE Harwell, GB, February 1988.

[BISHOP91A] C. M. Bishop, "A Review of Alpha Particle Physics in Tokamaks", Report No. AEA Fus 81, AEA Technology, Culham, GB, 1991.

[BITTER97A] M. Bitter, L. C. Johnson, Long-Poe Ku, A. L. Roquemore, and S. von Goeler, "Distinction Between DD and DT Neutrons in the TFTR Neutron Collimator", *Review of Scientific Instruments*, **68**, 2, (1997), pp. 1268–1272.

[BITTONI80A] E. Bittoni and M. Haegi, "DD Charged Fusion Products Confinement in the Frascati Tokamak FT", in *Proc. of the 2nd Joint Grenoble–Varenna Int. Symp. on Heating in Toroidal Plasmas*, (Varenna, 1980), Vol. II, pp. 1089–1095.

[BITTONI82A] E. Bittoni, M. Haegi, F. Santini, and S. E. Segre, "Alpha–Particle Containment in Tokamak Experiments", *Nuclear Fusion*, **22**, 12, (1982), pp. 1675–1679.

[BITTONI85A] E. Bittoni, A. Fubini, M. Haegi, E. Pedretti, M. Pillon, and A. Vannucci, "Preliminary Measurement of the Burn Up of the Fusion-Produced Tritons in FT", in *Proc. of the 12th European Conference on Controlled Fusion and Plasma Physics, Budapest, 1985*, (EPS, Petit-Lancy, 1985), Vol. 9F of *Europhysics Conference Abstracts*, pp. 211–214. Part I.

[BITTONI87A] E. Bittoni and M. Haegi, "The Limit of Alpha Particles Orbit Calculation", *Physica Scripta*, **T 16**, (1987), pp. 82–88.

[BITTONI87B] E. Bittoni and M. Haegi, "The Calculation of the Tritium Burnup in Tokamaks", Report No. RT/FUS/86/13, ENEA Frascati, Italy, 1987.

[BITTONI90A] Ezio Bittoni and Marcel Haegi, "A Numerically Derived Diffusion Coefficient for Fast Alpha Transport in a Tokamak Reactor with a Magnetic Ripple", *Fusion Technology*, **18**, 3, (1990), pp. 373–383.

[BITTONI92A] Ezio Bittoni and Marcel Haegi, "Alpha-Particle Confinement in the Presence of Magnetic Ripple and Magnetohydrodynamic Perturbations", *Fusion Technology*, **22**, (1992), pp. 461–469.

[BLAIR48A] J. Morris Blair, George Freier, Eugene Lampi, William Sleator, Jr., and J. H. Williams, "The Angular Distributions of the Products of the D–D Reaction: 1 to 3.5 MeV", *Physical Review*, **74**, 11, (1948), pp. 1599–1603.

[BOIVIN90A] R. Boivin, S. Kilpatrick, D. Manos, and S. Zweben, "Midplane Measurements of MeV Ion Confinement in TFTR", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3208–3210.

[BOIVIN91A] R. L. Boivin, S. J. Zweben, C. S. Chang, G. Hammett, H. E. Mynick, and R. B. White, "Diffusion of Alpha-Like MeV Ions in TFTR", in *Proc. of the 18th European Conference on Controlled Fusion and Plasma Physics, Berlin, 1991*, (EPS, Petit-Lancy, 1991), Vol. 15CI of *Europhysics Conference Abstracts*, pp. 49–52. Part I.

[BOIVIN91B] Réjean Louis Boivin. *Measurements of Charged Fusion Product Diffusion in TFTR*. PhD thesis, Princeton University, October 1991. also issued as PPPL-2797, December 1991.

[BOIVIN92A] R. L. Boivin, C. Kurz, D. H. Lo, C. L. Fiore, R. Granetz, and R. D. Petrasso, "Charged Fusion Product Diagnostics in Alcator C-Mod", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4533–4535.

[BOIVIN93A] R. L. Boivin, S. J. Zweben, and R. B. White, "Study of Stochastic Toroidal Field Ripple Losses of Charged Fusion Products at the Midplane of TFTR", *Nuclear Fusion*, **33**, 3, (1993), pp. 449–465.

[BOIVIN93B] R. L. Boivin and S. J. Zweben, "Midplane measurements of charged fusion product diffusion in the Tokamak Fusion Test Reactor", *Physics of Fluids B: Plasma Physics*, **5**, 5, (1993), pp. 1559–1566.

[BOMBA89A] Bernhard Bomba. *Interpretation und Simulation der Neutronenrate eines Deuteriumplasmas bei Neutralteilcheninjektion in ASDEX.* PhD thesis, Ruprecht-Karls-Universität Heidelberg, FRG, 1989.

[BOMBA91A] B. Bomba, Y. Feng, K. Hübner, B. Wolle, ASDEX-Team, and NI-Team, "Neutron Production During Deuterium Injection into ASDEX", in *Proc. of the 18th European Conference on Controlled Fusion and Plasma Physics, Berlin, 1991*, (EPS, Petit-Lancy, 1991), Vol. 15C of *Europhysics Conference Abstracts*, pp. 269–272. Part IV.

[BONNER52A] T. W. Bonner, J. P. Conner, and A. B. Lillie, "Cross Section and Angular Distribution of the He^3(d,p)He^4 Nuclear Reaction", *Physical Review*, **88**, 3, (1952), pp. 473–476.

[BOOTH56A] D. L. Booth, G. Preston, and P. F. D. Shaw, "The Cross Section and Angular Distributions of the D–D Reactions between 40 and 90 keV", *Proc. Phys. Soc. London*, **A69**, (1956), pp. 265–270.

[BOOTH91A] W. D. Booth, R. Carrera, T. Elevant, T. A. Parish, and B. Wehring, "Diagnostic System for the Deuterium-Tritium Phase of the IGNITEX Experiment", *Fusion Technology*, **19**, 3, (1991), pp. 1944–1948.

[BORRAS95A] M. C. Borrás, C. L. Fiore, K. W. Wenzel, and Y. Takase, "Photon Activation of the Alcator C-Mod Limiter and RF Antenna", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 942–944.

[BOSCH86A] H.-S. Bosch, U. Schumacher, and ASDEX-team, "Measurements of Charged Fusion Products in ASDEX", in *Proc. of the 13th European Conference on Controlled Fusion and Plasma Heating, Schliersee, 1986*, (EPS, Petit-Lancy, 1986), Vol. 10C of *Europhysics Conference Abstracts*, pp. 124–127. Part II.

[BOSCH86B] H.-S. Bosch, U. Schumacher, and ASDEX-, NI-, and LH-teams, "Plasmadiagnostics with Charged Fusion Products from the D-D reactions in ASDEX", in *Basic and Advanced Fusion Plasma Diagnostic Techniques*, (Varenna, 1986), Vol. III, pp. 761–766. EUR 10797 EN.

[BOSCH86C] Hans–Stephan Bosch. *Diagnostik geladener Fusionsreaktionsprodukte in ASDEX.* PhD thesis, Technische Universität München, December 1986. Report Nr. IPP-III/116, IPP Garching, FRG.

[BOSCH88A] H.-S. Bosch, J. D. Strachan, Cris W. Barnes, and E. B. Nieschmidt, "Calibration of a Surface Barrier Detector for 14-MeV Neutron Flux Measurements on TFTR", *Review of Scientific Instruments*, **59**, 8, (1988), pp. 1718–1720.

[BOSCH88B] Hans-Stephan Bosch, "Fusion Products Bibliography", Technical Memo No. TM-383, PPPL Princeton, NJ, May 1988.

[BOSCH90A] H.-S. Bosch and G. M. Hale, "New Evaluation of the Fusion Cross-Sections", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 873–876. Part II.

[BOSCH90B] Hans-Stephan Bosch, "Diagnostics with Charged Fusion Products in ASDEX", *Review of Scientific Instruments*, **61**, 6, (1990), pp. 1699–1707.

[BOSCH90C] Hans-Stephan Bosch, "Review of Data and Formulas for Fusion Cross-Sections", Report No. I/252, IPP, Garching, FRG, September 1990.

[BOSCH92A] H.-S. Bosch and G. M. Hale, "Improved Formulas for Fusion Cross-Sections and Thermal Reactivities", *Nuclear Fusion*, **32**, 4, (1992), pp. 611–631. erratum in vol. 33, no. 12 (1993) p. 1919.

[BOYD89A] D. A. Boyd, D. J. Campbell, J. G. Cordey, W. Core, J. P. Christiansen, G. A. Cottrell, et al., "^{3}He-d Fusion Reaction Rate Measurements During Fast-Wave Heating Experiments in JET", *Nuclear Fusion*, **29**, 4, (1989), pp. 593–604. preprint in JET-P(88)42, September 1988.

[BRENNAN58A] J. G. Brennan, "Extrapolation Procedure for the Low-Energy Deuteron-Deuteron Reaction Cross Section", *Physical Review*, **111**, 6, (1958), pp. 1592–1596.

[BRETSCHER49A] E. Bretscher and A. P. French, "Low Energy Cross Section of the D–T Reaction and Angular Distribution of the Alpha-Particles Emitted", *Physical Review*, **75**, 8, (1949), pp. 1154–1160.

[BROLLEY51A] J. E. Brolley, Jr., J. L. Fowler, and E. J. Stovall, Jr., "The Angular Distribution of the Products of the T(D,n)He^4 Reaction", *Physical Review*, **82**, 4, (1951), pp. 502–505.

[BROLLEY57A] J. E. Brolley, Jr., T. M. Putnam, and Louis Rosen, "d-D Reactions at 6- to 14-MeV Input Energy", *Physical Review*, **107**, 3, (1957), pp. 820–824.

[BROWN86A] Ronald E. Brown and Nelson Jarmie, "Hydrogen Fusion-Energy Reactions", in Phillip G. Young et. al., editor, *Nuclear Data for Basic and Applied Science*, (Gordon and Breach, New York, 1986), Vol. 1, pp. 45–57.

[BROWN87A] E. Brown, Ronald, Nelson Jarmie, and G. M. Hale, "Fusion-Energy Reaction ^{3}H(d,α)n at Low Energies", *Physical Review*, **C 35**, 6, (1987), pp. 1999–2004. erratum in **36**, (1987) p.1220.

[BROWN89A] Ronald E. Brown and Nelson Jarmie, "Differential Cross Sections at Low Energies for ^{2}H(d,p)^{3}H and ^{2}H(d,n)^{3}He", *Physical Review*, **C 41**, 4, (1990), pp. 1391–1400. preprint in LA-UR-89-953, 1989.

[BRUNELLI80A] B. Brunelli, "An Empirical Formula for the (D,T) Reaction Rate Parameter $<\sigma v>$", *Il Nuovo Cimento*, **55 B**, 2, (1980), pp. 264–267.

[BRUSATI78A] M. Brusati, S. L. Davis, J. C. Hosea, J. D. Strachan, and S. Suckewer, "Ion Energy Balance in Ohmically Heated PLT Discharges", *Nuclear Fusion*, **18**, 9, (1978), pp. 1205–1216.

[BRYSK73A] H. Brysk, "Fusion Neutron Energies and Spectra", *Plasma Physics*, **15**, (1973), pp. 611–617.

[BRZOSKO83A] Jan S. Brzosko, Jean Pierre Rager, B. V. Robouch, Achim H. Bähr, Hans Volker Klapdor, Erling Andersson, and Peter Herges, "Measurements of the D(d,n) and ^{3}He(d,p) Reaction Yields for the 1-MJ Plasma Focus Device Operating with a D_2–^{3}He Gas Mixture", *Nuclear Technology/Fusion*, **4**, (1983), pp. 263–276.

[BRZOSKO87A] Jan S. Brzosko, B. V. Robouch, and Joanna Klobukowska, "A Macroscopic Study of the Neutron, Gamma- and X-Ray Emissivity in the Frascati Plasma Focus", *Fusion Technology*, **12**, (1987), pp. 71–91.

[BRZOSKO95A] Jan S. Brzosko, Jan R. Brzosko Jr., Benjamin V. Robouch, and Luigi Ingrosso, "Triton Burnup in Plasma Focus Plasmas", *Physics of Plasmas*, **2**, 4, (1995), pp. 1259–1269.

[BUDNY91A] Robert Budny, D. Jassby, D. McCune, S. J. Zweben, M. Bitter, L. Johnson, D. Mikkelsen, H. Park, A. Ramsey, J. Strachan, B. Stratton, and G. Taylor, "Simulations of α-Effects in TFTR D-T Experiments", in *Proc. of the 18th European Conference on Controlled Fusion and Plasma Physics, Berlin, 1991*, (EPS, Petit-Lancy, 1991), Vol. 15C of *Europhysics Conference Abstracts*, pp. 129–132. Part II.

[BUDNY92A] R. V. Budny, M. G. Bell, H. Biglari, M. Bitter, C. E. Bush, C. Z. Cheng, E. D. Fredrickson, B. Grek, K. Hill, H. Hsuan, et al., "Simulations of Deuterium-Tritium Experiments in TFTR", *Nuclear Fusion*, **32**, 3, (1992), pp. 429–447.

[BUDNY94A] R. V. Budny, M. G. Bell, D. K. Mansfield, J. D. Strachan, S. Zweben, H. Adler, C. E. Bush, Z. Chang, D. Ernst, E. Fredrickson, et al., "Isotopic Mass and Alpha Heating Effects in TFTR DT Plasmas", in E. Joffrin, P. Platz, and P. E. Stott, editors, *Europhysics Conference Abstracts (Proc. of the 21th EPS Conference on Controlled Fusion and Plasma Physics, Montpellier, 1994)*, (EPS, Geneva, 1994), Vol. 18B, part I, pp. 82–688.

[BUDNY95A] R. V. Budny, M. G. Bell, A. C. Janos, D. L. Jassby, L.C. Johnson, et al., "Simulations of Alpha Parameters in a TFTR DT Supershot with High Fusion Power", *Nuclear Fusion*, **35**, 12, (1995), pp. 1497–1508.

[BULANOV90A] S. V. Bulanov, L. M. Kovrizhnykh, and S. G. Shasharina, "Model Description of Alpha-Particle Stochastic Losses in a Toroidal Plasma", *Fusion Technology*, **18**, 3, (1990), pp. 403–406.

[BURRUS69A] W. R. Burrus and V. V. Verbinski, "Fast-Neutron Spectroscopy with Thick Organic Scintillators", *Nuclear Instruments and Methods*, **67**, (1969), pp. 181–196.

[BUSS63A] W. Buss, H. Wäffler, and B. Ziegler, "Radiative Capture of Deuterons by ^{3}H", *Physics Letters*, **4**, 3, (1963), pp. 198–199.

[CALDWELL92A] C. J. Caldwell-Nichols, R. M. Russ, A. C. Bell, N. Davies, A. D. Haigh, H. D. Jones, and L. Serio, "Radiation Monitoring, Environmental and Health Physics Aspects During the First JET Tritium Experiment", *Fusion Engineering and Design*, **19**, (1992), pp. 149–159. preprint in JET-P(92)06, February 1992.

[CAORLIN94A] M. Caorlin, J. Kamperschroer, D. K. Owens, C. W. Barnes, D. Voorhees, D. Mueller, A. T. Ramsey, P. H. La Marche, and M. J. Loughlin, "A Tritium Vessel Cleanup Experiment in TFTR", in E. Joffrin, P. Platz, and P. E. Stott, editors, *Europhysics Conference Abstracts (Proc. of the 21th EPS Conference on Controlled Fusion and Plasma Physics, Montpellier, 1994)*, (EPS, Geneva, 1994), Vol. 18B, part I, pp. 18–21.

[CARRERA90A] R. Carrera, Z. Guo, G. Y. Fu, L. M. Hively, G. H. Miley, E. Montalvo, M. N. Rosenbluth, S. Tamor, and J. W. Van Dam, "Alpha Containment, Heating, and Stability in the IGNITEX Experiment", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 970–973. Part II.

[CARRERA90B] Rodolfo Carrera, Elena Montalvo, James W. Van Dam, Guo-Yong Fu, Lee M. Hively, George H. Miley, Marshall N. Rosenbluth, and Steven Tamor, "Preliminary Analysis of Alpha-Particle Effects in the Fusion Ignition Experiment IGNITEX", *Fusion Technology*, **18**, 4, (1990), pp. 535–555.

[CARRUTHERS90A] E. V. Carruthers, J. Zhu, P. C. Stangeby, G. M. McCracken, J. P. Coad, S. K. Erents, D. H. J. Goodall, J. C. B. Simpson, and J. W. Partridge, "Measurements of the Energy Distribution of Fast Tritons and Helium Ions Escaping from the Plasma in JET", *Journal of Nuclear Materials*, **176 & 177**, (1990), pp. 1027–1031.

[CATTO87A] Peter J. Catto, "Evaluation of the Slowing Down Tail Enhanced, Neoclassical Alpha Particle Energy Flux", *Physics of Fluids*, **30**, 9, (1987), pp. 2740–2744.

[CATTO88A] Peter J. Catto, "Slowing–Down–Tail Enhancement of the Neoclassical Energy Flux of α's", *Physical Review Letters*, **60**, 19, (1988), pp. 1954–1956.

[CATTO88B] Peter J. Catto and Massimo Tessarotto, "Slowing down tail Enhanced, Neoclassical and Classical Alpha Particle Fluxes in Tokamak Reactors", *Physics of Fluids*, **31**, 8, (1988), pp. 2292–2299. Erratum on page 3809.

[CAUFFMAN95A] S. Cauffman, R. Majeski, K. G. McClements, and R. O. Dendy, "Alfvénic Behaviour of Alpha Particle Driven Ion Cyclotron Emission in TFTR", *Nuclear Fusion*, **35**, 12, (1995), pp. 1597–1602.

[CECIL84A] F. E. Cecil and F. J. Wilkinson, III, "Measurement of the Ground-State Gamma-Ray Branching Ratio of the dt Reaction at Low Energies", *Physical Review Letters*, **53**, 8, (1984), pp. 767–770.

[CECIL84B] F. E. Cecil and David E. Newman, "Diagnostics of High Temperature Deuterium and Tritium Plasmas by Spectrometry of Radiative Capture Reactions", *Nuclear Instruments and Methods in Physics Research*, **A 221**, (1984), pp. 449–452.

[CECIL85B] F. E. Cecil, D. M. Cole, R. Philbin, Nelson Jarmie, and Ronald E. Brown, "Reaction ^{2}H(^{3}He,γ)^{5}Li at Center-of-Mass Energies between 25 and 60 keV", *Physical Review C*, **32**, 3, (1985), pp. 690–693.

[CECIL85C] F. E. Cecil, D. M. Cole, F. J. Wilkinson III, and S. S. Medley, "Measurement and Application of DDγ, DTγ and D^{3}Heγ Reactions at Low Energy", *Nuclear Instruments and Methods*, **B10/11**, (1985), pp. 411–414.

[CECIL86A] F. E. Cecil, S. S. Medley, E. B. Nieschmidt, and S. J. Zweben, "Nuclear Reaction Diagnostics of Fast Confined and Escaping Alpha Particles", *Review of Scientific Instruments*, **57**, 8, (1986), pp. 1777–1779.

[CECIL86B] F. E. Cecil and E. B. Nieschmidt, "Production of 14 MeV Neutrons from D–D Neutron Generators", *Nuclear Instruments and Methods in Physics Research*, **B16**, (1986), pp. 88–90.

[CECIL86C] F. E. Cecil, S. J. Zweben, and S. S. Medley, "A Method for Determining Fast-Alpha-Particle Confinement in Tokamak Plasmas Using Resonant Nuclear Reactions", *Nuclear Instruments and Methods in Physics Research*, **A245**, (1986), pp. 547–552. preprint in PPPL-2268, March 1986.

[CECIL87A] F. E. Cecil and S. S. Medley, "Gamma Ray Measurements During Deuterium and ^{3}He Discharges on TFTR", *Nuclear Instruments and Methods in Physics Research*, **A271**, (1988), pp. 628–635. preprint in PPPL-2444, May 1987.

[CECIL90A] F. E. Cecil, H. Liu, J. C. Scorby, and S. S. Medley, "Prompt Gamma Ray Diagnostics of Advanced Fuel Fusion Plasmas", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3223–3225.

[CECIL92A] F. E. Cecil and J. C. Scorby, "Investigation of the Neutron Detection Properties of the Fast Liquid Scintillator BC-505", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4559–4561.

[CECIL92B] F. E. Cecil, H. Liu, J. S. Yan, and S. S. Medley, "Gamma Ray to Charged Particle Branching Ratios for the Radiative Capture of Deuterons by ^{2}H, ^{6}Li, and ^{10}B", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4854–4856.

[CECIL94A] F. E. Cecil, P. van Belle, O. N. Jarvis, and G. J. Sadler, "Development of Thin Foil Faraday Collector as a Lost Alpha Particle Diagnostic for High Yield D-T Tokamak Fusion Plasmas", in E. Joffrin, P. Platz, and P. E. Stott, editors, *Europhysics Conference Abstracts (Proc. of the 21th EPS Conference on Controlled Fusion and Plasma Physics, Montpellier, 1994)*, (EPS, Geneva, 1994), Vol. 18B, part III, pp. 1340–1343.

[CECIL94B] F. E. Cecil, P. van Belle, O. N. Jarvis, and G. J. Sadler, "Installation, Characterisation and Initial Operation of a Compton and Escape Annihilation Quanta Suppressed Gamma Ray Spectrometer on JET", Report No. JET-IR(94)04, JET, Culham, GB, November 1994. Not for Publication.

[CHAGNON56A] Paul R. Chagnon and George E. Owens, "Angular Distribution of the D+D Neutrons", *Physical Review*, **101**, 6, (1956), pp. 1798–1803.

[CHANG90A] C. S. Chang, Kaya Imre, Harold Weitzner, and P. Colestock, "Control of Alpha-Particel Transport by Ion Cyclotron Resonance Heating", *Fusion Technology*, **18**, 4, (1990), pp. 618–624.

[CHANG95A] Z. Chang, E. D. Fredrickson, S. J. Zweben, H. K. Park, R. Nazikian, et al., "Alfvén Frequency Modes at the Edge of TFTR Plasmas", *Nuclear Fusion*, **35**, 12, (1995), pp. 1469–1479.

[CHANG97A] Z. Chang, R. Nazikian, G.-Y. Fu, R. B. White, S. J. Zweben, E. D. Fredrickson, S. H. Batha, M. G. Bell, R. E. Bell, R. V. Budny, et al., "Alpha-driven Magnetohydrodynamics (MHD) and MHD-induced Alpha Loss in the Tokamak Fusion Test Reactor", *Physics of Plasmas*, **4**, 5, (1997), pp. 1610–1616.

[CHANIOTAKIS91A] E. A. Chaniotakis and D. J. Sigmar, "Steady State and Time Dependent Effects of Fusion Reactivity Enhancement due to Minority Heating in D-T and D-^{3}He Tokamak Plasmas", Report No. PFC/JA-91-3, MIT/PFC, Cambridge, MA, February 1991.

[CHATELIER81A] M. Chatelier, J. Idmtal, A. Lagattu, and A. Lepers, "A Fast Neutron Spectrometer for Fusion Experiments", *Nuclear Instruments and Methods*, **190**, (1981), pp. 107–118.

[CHATELIER89A] M. Chatelier, A. Geraud, P. Joyer, G. Martin, and J. M. Rax, "Runaway Electrons Dynamics and Confinement in TORE-SUPRA", in *Proc. of the 16th European Conference on Controlled Fusion and Plasma Physics, Venice, 1989*, (EPS, Petit-Lancy, 1989), Vol. 13B of *Europhysics Conference Abstracts*, pp. 19–22. Part I.

[CHENG89A] C. Z. Cheng, G. Y. Fu, and J. van Dam, "Alpha Particle Destabilization of Shear Alfvén Waves in Ignited Tokamaks", in *Proc. of the 16th European Conference on Controlled Fusion and Plasma Physics, Venice, 1989*, (EPS, Petit-Lancy, 1989), Vol. 13B of *Europhysics Conference Abstracts*, pp. 327–330. Part I.

[CHENG90A] C. Z. Cheng, "Energetic Particle Effects on Global Magnetohydrodynamic Modes", *Physics of Fluids B: Plasma Physics*, **2**, 6, (1990), pp. 1427–1434. preprint in PPPL-2668, January 1990, invited talk at the 1989 APS meeting in Anaheim.

[CHENG90B] C. Z. Cheng, "Alpha-Particle Driven MHD Instabilities in Ignited Tokamaks", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 910–913. Part II.

[CHENG90C] C. Z. Cheng, "Alpha-Particle Effects on Low-n Magnetohydrodynamic Modes", *Fusion Technology*, **18**, 3, (1990), pp. 443–454.

[CHENG90D] C. Z. Cheng, "Alpha Particle Destabilization of the Toroidicity-Induced Alfvén Eigenmodes", *Physics of Fluids B: Plasma Physics*, **3**, 9, (1991), pp. 2463–2471. preprint in PPPL-2717, October 1990.

[CHENG91A] C. Z. Cheng, R. B. White, G. Y. Fu, L. Chen, D. J. Sigmar, C. T. Hsu, A. Beklemishev, H. L. Berk, B. Breizman, S. C. Guo, Z. Guo, D. Lindberg, and J. W. van Dam, "Alpha Particle Effects on Global MHD Modes and Alpha Particle Transport in Ignited Tokamaks", Report No. PPPL-2730, PPPL, Princeton, NJ, February 1991.

[CHENG95A] C. Z. Cheng, N. N. Gorelenkov, and C. T. Hsu, "Fast Particle Destabilization of Toroidal Alfvén Eigenmodes", *Nuclear Fusion*, **35**, 12, (1995), pp. 1639–1650.

[CHIU90A] S. C. Chiu and V. S. Chan, "Effect of Energetic Particle Absorption on Fast-Wave Current Drive", *Fusion Technology*, **18**, 4, (1990), pp. 591–596.

[CHRIEN80A] R. E. Chrien and J. D. Strachan, "Selective Fast Neutron Detector", *Review of Scientific Instruments*, **51**, 12, (1980), pp. 1638–1640.

[CHRIEN81A] Robert Edward Chrien. *Measurements of Fusion Reactions from a Tokamak Plasma.* PhD thesis, Princeton University, October 1981.

[CHRIEN81B] R. E. Chrien, P. L. Colestock, H. P. Eubank, J. C. Hosea, D. Q. Hwang, J. D. Strachan, and H. R. Thompson, Jr., "Observation of d-^{3}He Fusion Reactions in a Tokamak Plasma", *Physical Review Letters*, **46**, 8, (1981), pp. 535–538.

[CHRIEN81C] R. E. Chrien, H. P. Eubank, D. M. Meade, and J. D. Strachan, "Central Helium Density Measurements in PLT", *Nuclear Fusion*, **21**, 12, (1981), pp. 1661–1665. preprint in PPPL-1813.

[CHRIEN83A] R. E. Chrien and J. D. Strachan, "d-^{3}He Reaction Measurements during fast Wave Minority Heating in the PLT Tokamak Experiment", *Physics of Fluids*, **26**, 7, (1983), pp. 1953–1964.

[CHRIEN83B] R. E. Chrien, R. Kaita, and J. D. Strachan, "Observation of d(d,p)t Reactions in the Princeton Large Torus", *Nuclear Fusion*, **23**, 10, (1983), pp. 1399–1402. preprint in PPPL-1931.

[CHU85A] Y. Chu, F. Najmabadi, and R. W. Conn, "Self-Consistent Study of Fusion Products Slowing Down in Burning Plasmas", *Plasma Physics and Controlled Fusion*, **27**, 8, (1985), pp. 847–854.

[CHUANG79A] L. S. Chuang, H. K. Wong, and K. C. Wong, "Absolute Determination of 14 MeV Neutron Spectrum by Means of Liquid-Scintillation Spectrometer and Threshold Foil-Detectors", *Nuclear Instruments and Methods*, **160**, (1979), pp. 487–492.

[CLAYTON68A] D. D. Clayton, *Principles of Stellar Evolution and Nucleosynthesis*, McGraw-Hill, New York, (1968).

[COAD91A] J. P. Coad, A. Gibson, A. D. Haigh, G. Kaveney, and J. Orchard, "Deuterium and Tritium Release on Venting the JET Torus to Air After the Beryllium Phase", in *Proc. of the 18th European Conference on Controlled Fusion and Plasma Physics, Berlin, 1991*, (EPS, Petit-Lancy, 1991), Vol. 15C of *Europhysics Conference Abstracts*, pp. 81–84. Part III.

[COLESTOCK79A] P. Colestock, J. D. Strachan, M. Ulrickson, and R. E. Chrien, "Confinement of Fusion-Produced Tritium in the Princeton Large Torus", *Physical Review Letters*, **43**, 11, (1979), pp. 768–772.

[COLESTOCK79B] P. L. Colestock, S. Davis, P. Efthimion, H. P. Eubank, R. J. Goldston, L. R. Grisham, R. J. Hawryluk, J. Hovey, D. L. Jassby, D. W. Johnson, A. A. Mirin, G. Schilling, R. Stooksberry, L. D. Stewart, J. D. Strachan, and H. H. Towner, "Fusion Neutron Production During Deuterium Neutral Beam Injection into PLT", in *Proc. of the 9th European Conference on Controlled Fusion and Plasma Physics*, (Oxford, 1979), Vol. 1, p. 45.

[COLLOPY92B] M. T. Collopy, P. Carpenter, C. D. Harmon, J. Vandenberg, G. W. Cooper, C. L. Ruiz, P. Reyes, W. A. Stygar, A. Schmidlapp, D. J. Malbrough, and R. Becker, "Calibration of CR-39 for Detecting Fusion Neutrons", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4892–4894.

[CONNER52A] J. P. Conner, T. W. Bonner, and J. R. Smith, "A Study of the $H^3(d,n)He^4$ Reaction", *Physical Review*, **88**, 3, (1952), pp. 468–473.

[CONROY88A] S. Conroy, O. N. Jarvis, G. Sadler, and G. B. Huxtable, "Time-Resolved Measurements of Triton Burnup in JET Plasmas", *Nuclear Fusion*, **28**, 12, (1988), pp. 2127–2134. preprint in JET-P(88)16, May 1988.

[CONROY89A] S. Conroy, J. P. Argyle, P. Batistoni, E. Clipsham, G. B. Huxtable, O. N. Jarvis, M. Pillon, S. Podda, M. Rapisarda, G. Sadler, and P. van Belle, "Triton Burnup in JET", in *Proc. of the 16th European Conference on Controlled Fusion and Plasma Physics, Venice, 1989*, (EPS, Petit-Lancy, 1989), Vol. 13B of *Europhysics Conference Abstracts*, pp. 67–70. Part I.

[CONROY90A] S. Conroy, O. N. Jarvis, M. Pillon, and G. Sadler, "A Regime Showing Anomalous Triton Burnup in JET", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 98–101. Part I.

[CONROY91A] S. W. Conroy, H. Bergsaker, J. P. Coad, O. N. Jarvis, F. B. Marcus, G. M. McCracken, R. A. Pitts, G. Sadler, P. van Belle, and J. Zhu, "Alpha- Particle Diagnostics for the D-T Phase", in *Proc. of the 18th European Conference on Controlled Fusion and Plasma Physics, Berlin, 1991*, (EPS, Petit-Lancy, 1991), Vol. 15C of *Europhysics Conference Abstracts*, pp. 265–268. Part IV.

[COOMBE63A] R. A. Coombe and B. A. Ward, "The Energy Spectra of the Neutrons from ZETA", *Plasma Physics (Journal of Nuclear Energy Part C)*, **5**, (1963), pp. 273–283.

[COPPI89A] B. Coppi, S. Migliuolo, F. Pegoraro, and F. Porcelli, "Global Modes and High-Energy Particles in Ignited Plasmas", *Physics of Fluids B: Plasma Physics*, **2**, 5, (1990), pp. 927–943. preprint in JET-P(89)22.

[CORDEY87A] J. G. Cordey, M. Keilhacker, and M. L. Watkins, "Prospects for Alpha Particle Heating in JET in the Hot Ion Regime", *Physica Scripta*, **T 16**, (1987), pp. 127–132. preprint in JET-P(86)38.

[CORE87A] W. G. F. Core, P. van Belle, and G. Sadler, "Beam-Plasma Fusion Yield in Rotating Tokamak Plasmas", in *Proc. of the 14th European Conference on Controlled Fusion and Plasma Physics, Madrid, 1987*, (EPS, Petit-Lancy, 1987), Vol. 11D of *Europhysics Conference Abstracts*, pp. 49–52. Part I.

[CORE87B] W. G. F. Core, "A Note on the Computation of Thermonuclear Reactivities in Plasma-Fusion Applications", Report No. JET-IR(87)11, JET, Culham, GB, 1987.

[COSTLEY88A] A. E. Costley, J. A. Hoekzema, T. P. Hughes, P. E. Stott, and M. L. Watkins, "A Thomson Scattering Diagnostic to Measure Fast Ion and α-Particle Distributions in JET", Report No. JET-R(88)08, JET, Culham, GB, 1988.

[COTTRELL86A] G. A. Cottrell, P. P. Lallia, G. Sadler, and P. van Belle, "Identification of Ion Cyclotron Emission from Charged Fusion Products", in *Proc. of the 13th European Conference on Controlled Fusion and Plasma Heating, Schliersee, 1986*, (EPS, Petit-Lancy, 1986), Vol. 10C of *Europhysics Conference Abstracts*, pp. 37–40. Part II.

[COTTRELL88A] G. A. Cottrell and R. O. Dendy, "Superthermal Radiation from Fusion Products in JET", *Physical Review Letters*, **60**, 1, (1988), pp. 33–36. preprint in JET-P(87)45.

[COTTRELL88B] G. A. Cottrell, G. Sadler, P. van Belle, D. J. Campbell, J. G. Cordey, W. Core, T. Hellsten, J. Jaquinot, S. Kissel, D. F. H. Start, P. R. Thomas, and J. Wesson, "Study of ICRF Driven Fusion Reactivity", in *Proc. of the 15th European Conference on Controlled Fusion and Plasma Heating, Dubrovnik, 1988*, (EPS, Petit-Lancy, 1988), Vol. 12B of *Europhysics Conference Abstracts*, pp. 721–724. Part II.

[COTTRELL89A] G. A. Cottrell, V. P. Bhatnagar, M. Bures, L. G. Eriksson, T. Hellsten, J. Jaquinot, and D. F. H. Start, "Non-Thermal DT Yield with (D)T ICRH Heating in JET", in *Proc. of the 16th European Conference on Controlled Fusion and Plasma Physics, Venice, 1989*, (EPS, Petit-Lancy, 1989), Vol. 13B of *Europhysics Conference Abstracts*, pp. 71–74. Part I.

[COTTRELL89B] G. A. Cottrell, V. P. Bhatnagar, M. Bures, L. G. Eriksson, T. Hellsten, J. Jaquinot, and D. F. H. Start, "Non-Thermal DT Yield with (D)T ICRH Heating in JET", *Plasma Physics and Controlled Fusion*, **31**, 11, (1989), pp. 1727–1740. preprint in JET-P(89)35, May 1989.

[COTTRELL89C] G. A. Cottrell, J. G. Cordey, J. Jacquinot, O. N. Jarvis, P. J. Lomas, G. Sadler, D. F. H. Start, P. R. Thomas, and P. van Belle, "Alpha Particle Simulation Experiments in JET", Report No. JET-P(89)80, JET, Culham, GB, 1989. presented at the 31st APS meeting, Anaheim, CA, November 1989.

[COTTRELL92A] G. A. Cottrell, V. P. Bhatnagar, O. da Costa, R. O. Dendy, A. Edwards, J. Jacquinot, M. F. F. Nave, M. Schmid, A. Sibley, P. Smeulders, and D. F. H. Start, "Identification of Ion Cyclotron Emission from Fusion Alpha Particles during JET Deuterium-Tritium Experiments", in W. Freysinger, K. Lackner, R. Schrittwieser, and W. Lindinger, editors, *Europhysics Conference Abstracts (Proc. of the International Conference on Plasma Physics, Innsbruck, 1992)*, (EPS, Geneva, 1992), Vol. 16C, part I, pp. 327–330.

[COTTRELL93A] G. A. Cottrell, V. P. Bhatnagar, O. Da Costa, R. O. Dendy, J. Jacquinot, K. G. McClements, D. C. McCune, M. F. F. Nave, P. Smeulders, and D. F. H. Start, "Ion Cyclotron Emission Measurements During JET Deuterium-Tritium Experiments", *Nuclear Fusion*, **33**, 9, (1993), pp. 1365–1387.

[COTTRELL94A] G.A. Cottrell and L.-G. Eriksson, "Ion Cyclotron Absorption by Fusion Alpha-Particles", Report No. JET-R(94)10, JET, Culham, GB, November 1994.

[COX90A] Larry T. Cox Jr., Franklin B. Mead Jr., and Chan K. Choi, "Thermonuclear Reaction Listing with Cross-Section Data for Four Advanced Reactions", *Fusion Technology*, **18**, (1990), pp. 325–339.

[CROFT93A] S. Croft, D. S. Bond, and N. P. Hawkes, "An Efficient 14-MeV Neutron Detector for Use in Mixed 2.5- and 14-MeV Neutron Beams", *Review of Scientific Instruments*, **64**, 6, (1993), pp. 1418–1424.

[DARROW92A] D. S. Darrow, E. D. Fredrickson, H. E. Mynick, R. Nazikian, R. B. White, K.-L. Wong, and S. J. Zweben, "Observations of beam ion losses in TFTR during TAE modes and other MHD activity", in *Proc. of the 19th European Conference on Plasma Physics and Controlled Fusion, Innsbruck, 1992*, (EPS, Petit-Lancy, 1992), Vol. I, pp. 431–434.

[DARROW92B] D. S. Darrow, R. L. Boivin, and S. J. Zweben, "Extension of the Energy Range of the Moveable Fast Ion Probe on TFTR", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4562–4564.

[DARROW95A] D. S. Darrow, H. W. Herrmann, D. W. Johnson, R. J. Marsala, R. W. Palladino, S. J. Zweben, and M. Tuszewski, "Measurement of Loss of DT Fusion Products Using Scintillator Detectors in TFTR", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 476–482.

[DARROW96A] D. S. Darrow, C.-S. Chang, S. J. Zweben, R. V. Budny, H. W. Herrmann, E. F. Jaeger, R. Majeski, M. Murakami, C. K. Phillips, J. H. Rogers, G. Schilling, J. E. Stevens, and J. R. Wilson, "ICRF-Induced DD Fusion Product Losses in TFTR", *Nuclear Fusion*, **36**, 1, (1996), pp. 1–9.

[DARROW96B] D. S. Darrow, S. J. Zweben, S. Batha, R. V. Budny, C. E. Bush, Z. Chang, C. Z. Cheng, H. H. Duong, J. Fang, Fisch, et al., "Alpha Particle Losses from Tokamak Fusion Test Reactor Deuterium-Tritium Plasmas", *Plasma Physics*, **3**, 5, (1996), pp. 1875–1880.

[DAVENPORT53A] P. A. Davenport, T. O. Jeffries, Maureen E. Owen, F. V. Price, and D. Roaf, "The D–D Cross-Section and Angular Distribution Between 55 and 430 keV", *Proc. Roy. Soc. London*, **A 216**, (1953), pp. 66–71.

[DAVIDENKO57A] V. A. Davidenko, A. M. Kucher, I. S. Pogrebov, and Iu. F. Tuturov, "Determination of the Total Cross Section for the D(d,n)He^3 Reaction in the Energy Region 20-220 keV", *Supplement No. 5 of Sov. J. At. Energy, Atomnaya Energiya (1957)*, pp. 7–12.

[DEGENHARDT91A] Gerald Degenhardt. *Sphärische Ionisationskammer als Neutronenspektrometer am Tokamak.* PhD thesis, Ruprecht-Karls-Universität Heidelberg, FRG, 1991.

[DELVIGNE90A] T. Delvigne, D. Lebeau, A. Messiaen, and G. VanWassenhove, "A High Dynamic Range Neutron Counting System for ICRH and NBI Experiments on TEXTOR", in *Proc. of the 16th Symposion on Fusion Technology, London, 1990*, (Elsevier, Amsterdam, 1991), Vol. 2, pp. 1322–1326.

[DENDY95A] R. O. Dendy, K. G. McClements, C. N. Lashmore-Davies, G. A. Cottrell, S. Cauffmann, and R. Majeski, "Interpretation of Ion Cyclotron Emission from Sub-Alfvénic Fusion Products in TFTR", in B.E. Keen, P.E. Stott, and J. Winter, editors, *Europhysics Conference Abstracts (Proc. of the 22th EPS Conference on Controlled Fusion and Plasma Physics, Bournemouth, 1995)*, (EPS, Geneva, 1995), Vol. 19C, part II, pp. 229–232.

[DENDY95B] R. O. Dendy, K. G. McClements, C. N. Lashmore-Davies, G. A. Cottrell, R. Majeski, et al., "Ion Cyclotron Emission Due to Collective Instability of Fusion Products and Beam Ions in TFTR and JET", *Nuclear Fusion*, **35**, 12, (1995), pp. 1733–1742.

[DERZON85A] M. S. Derzon, D. R. Slaughter, and S. G. Prussin, "^{3}He Gas Scintillation Spectrometer for Fusion Neutron Measurements", *Review of Scientific Instruments*, **56**, 5, (1985), pp. 1090–1092.

[DERZON86A] Mark S. Derzon, Dennis R. Slaughter, and Stanley G. Prussin, "A High-Pressure ^{3}He Gas Scintillation Neutron Spectrometer", *IEEE Trans. Nucl. Sci.*, **NS-33**, 1, (1986), pp. 247–249.

[DHAESELEER90A] W. D. D'Haeseleer, "A Fast Method for Simulating α-Particle Orbits in Tokamaks", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 748–751. Part II.

[DHONDT86A] P. D'hondt, S. De Leeuw, R. Menil, and Y. Bortels, "Delayed Neutron Counting System for JET Plasma Neutron Yields Diagnostics", Report No. CEN/SCK 528007/510, SCK–CEN Mol, Belgium, September 1986.

[DICKENS85A] J. K. Dickens, N. W. Hill, F. S. Hou, J. W. McConnell, R. R. Spencer, and F. Y. Tsang, "An NE-213-Scintillator-Based Neutron Detection System for Diagnostic Measurements of Energy Spectra for Neutrons Having Energies $\geq$ 0.8 MeV Created During Plasma Operations at the Princeton Tokamak Fusion Test Reactor", Report No. ORNL/TM-9561, ORNL, Oak Ridge, TN, August 1985.

[DICKENS87A] J. K. Dickens, J. W. McConnel, K. M. Chase, H. W. Hendel, E. B. Nieschmidt, and Francis Y. Tsang, "Measurements of the Neutron and gamma-Ray Fluences in the TFTR Test Cell due to a Point Source Simulating D-T Fusion Plasma Neutron Production", *Fusion Technology*, **12**, (1987), pp. 270–280.

[DILLNER91A] Ö. Dillner, D. Anderson, H. Hamnen, and M. Lisak, "Modelling of Prompt Losses of High Energy Charged Particles in Tokamaks", *Physica Scripta*, **44**, (1991), pp. 367–375.

[DOLOC95A] C.M. Doloc and G. Martin, "A New Way to Compute Charged Fusion Product Trajectories. Application to the Detection of 3 MeV Protons", *Nuclear Fusion*, **35**, 12, (1995), pp. 1543–1552.

[DOOLING90A] J. C. Dooling, J. L. Sperling, and K. G. Moses, "Effect of Spatial and Velocity Distributions on the Generation of Ion Cyclotron Emission from Fusion Products", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3205–3207.

[DROSG72A] M. Drosg, "Accurate Measurement of the Counting Efficiency of a NE-213 Neutron Detector between 2 and 26 MeV", *Nuclear Instruments and Methods*, **105**, (1972), pp. 573–584.

[DROSG87A] M. Drosg and O. Schwerer. "Production of Monoenergetic Neutrons between 0.1 and 23 MeV". in *Handbook on Nuclear Activation Data*, pp. 83–162. IAEA, Vienna, 1987.

[DUANE72A] B. H. Duane. "Fusion Cross Section Theory". in W. C. Wolkenhauer, editor, *Annual Report on CTR Technology 1972*. Batelle Pacific Northwest Laboratory, Richland, WS, 1972. BNWL-1685.

[DUONG90A] Hau H. Duong and W. W. Heidbrink, "A 15 MeV Proton Diagnostic for DIII-D", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3137–3139. preprint in GA-A20111, October 1990.

[DUONG93A] H. H. Duong and W. W. Heidbrink, "Confinement of Fusion Produced MeV Ions in the DIII-D Tokamak", *Nuclear Fusion*, **33**, 2, (1993), pp. 211–224.

[DUONG93B] H. H. Duong, W. W. Heidbrink, E. J. Strait, T. W. Petrie, R. Lee, R. A. Moyer, and J. G. Watkins, "Loss of Energetic Beam Ions during TAE Instabilities", *Nuclear Fusion*, **33**, 5, (1993), pp. 749–765.

[DYLLA88A] H. F. Dylla and K. L. Wilson, "Tritium Retention in TFTR", Report No. PPPL-2523/SAND 88-8212, PPPL and Sandia National Laboratories, April 1988.

[EKDAHL79A] C. A. Ekdahl, "Neutron Diagnostics for Pulsed High-Density Thermonuclear Plasmas", *Review of Scientific Instruments*, **50**, 8, (1979), pp. 941–948.

[ELEVANT77A] Thomas Elevant, "Particle Diagnosis of a Fusion Plasma", *Nuclear Instruments and Methods*, **141**, (1977), pp. 603–606.

[ELEVANT81A] T. Elevant, "A Neutron Spectrometer Suitable For Diagnostics of Extended Fusion Plasmas", *Nuclear Instruments and Methods*, **185**, (1981), pp. 313–320.

[ELEVANT84A] T. Elevant, "A Preliminary Study of Charged Fusion Product Diagnostics for JET", Report No. TRITA-PFU-84-04, Royal Institute of Technology, Stockholm, Sweden, February 1984.

[ELEVANT84B] T. Elevant, "A Neutron Time of Flight Spectrometer Appropriate for D–T Plasma Diagnostics", Report No. TRITA-PFU-84-13, Royal Institute of Technology, Stockholm, Sweden, February 1984.

[ELEVANT85A] Th. Elevant and M. Olsson, "Time-of-Flight Neutron Spectrometer for DT-Plasma Diagnostics", *Nuclear Instruments and Methods in Physics Research*, **A 238**, (1985), pp. 147–152.

[ELEVANT86A] T. Elevant, H. W. Hendel, E. B. Nieschmidt, and L. E. Samuelson, "Silicon Surface Barrier Detector for Fusion Neutron Spectroscopy", *Review of Scientific Instruments*, **57**, 8, (1986), pp. 1763–1765.

[ELEVANT87A] T. Elevant and G. Andersson, "Utilization of (α,n) and (α,γ) Reactions for Measurements of Confinement and Velocity Distribution of Fast Alpha Particles", *Physica Scripta*, **T 16**, (1987), pp. 148–154.

[ELEVANT89A] T. Elevant, "Performance of a Liquid Scintillator at High Count-Rates for Fusion Applications", *Nuclear Instruments and Methods in Physics Research*, **A278**, (1989), pp. 774–778.

[ELEVANT89B] T. Elevant, D. Aronsson, P. van Belle, G. Grosshoeg, M. Hoek, M. Olsson, and G. Sadler, "The JET Neutron Time-of-Flight Spectrometer", *Nuclear Instruments and Methods in Physics Research*, **A306**, (1991), pp. 331–342. preprint in JET-P(89)76, November 1989.

[ELEVANT92A] T. Elevant, P. v. Belle, G. Grosshög, M. Hoek, O. N. Jarvis, M. Olsson, and G. Sadler, "The New JET 2.5-MeV Neutron Time-of-Flight Spectrometer", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4586–4588.

[ELEVANT94A] T. Elevant, P. van Belle, O. N. Jarvis, and G. Sadler, "Measurements of Fusion Neutron Energy Spectra at JET by Means of Time-of-Flight Techniques", *Nuclear Instruments and Methods in Physics Research*, **A 364**, (1995), pp. 333–341. preprint in JET-P(94)53, November 1994.

[ELEVANT95A] T. Elevant, N. Garis, R. Chakarova, and P. Linden, "A Neutron Spectrometer for ITER", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 881–883.

[ELEVANT95B] Tomas Elevant, Hans E. Brelén, Per G. Lindén, and Jan Scheffel, "Ion Temperature Profile Measurements in ITER by Means of Neutron Spectroscopy", *Fusion Technology*, **32**, (1997), pp. 304–317. preprint in JET-P(95)65, November 1995.

[ELEVANT95C] T. Elevant, H. Brelén, P. Lindén, and J. Scheffel. "Ion Temperature Profile Measurements by Means of Neutron Spectroscopy". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 445–450. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[ELEVANT95D] T. Elevant, R. Chakarova, and J. Karlsson. "Scintillating Fibre Neutron Spectrometer". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 451–454. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[ELIOT53A] Elizabeth A. Eliot, D. Roaf, and P. F. D. Shaw, "The Cross-Section and Angular Distribution of the D–D Reactions Below 50 keV", *Proc. Roy. Soc. London*, **A 216**, (1953), pp. 57–65.

[ENGEL61A] A. von Engel and C. C. Goodyear, "Fusion Cross-Section Measurements with Deuterons of low Energy", *Proc. Roy. Soc. London*, **A 264**, (1961), pp. 445–457.

[ENGELMANN87A] F. Engelmann, "Importance of Effects Due to Fusion α–Particles for Tokamak Reactor Design", *Physica Scripta*, **T 16**, (1987), pp. 16–17.

[ENGELMANN89A] F. Engelmann, "Report on the 7th European Tokamak Programme Workshop", *Plasma Physics and Controlled Fusion*, **31**, 11, (1989), pp. 1823–1842. P. R. Thomas' contribution on *Fast Particles in Plasmas and α-Particle Physics* was published as a preprint in JET-P(89)39 in May 1989.

[ENGLAND84A] A. C. England, "A Technique for Measuring the Losses of Alpha Particles to the Wall in TFTR", Report No. ORNL/TM-9034, ORNL, Oak Ridge, TN, March 1984.

[ENGLAND85A] A. C. England, H. W. Hendel, and E. B. Nieschmidt, "Neutron Diagnostics on TFTR utilizing the Campbelling Technique", *Review of Scientific Instruments*, **57**, 8, (1986), pp. 1754–1756.

[ERICKSON49A] K. W. Erickson, J. L. Fowler, and E. J. Stovall, Jr., "Cross Section as a Function of Angle for the D(d,n)He^3 Reaction for 10-MeV Bombarding Deuterons", *Physical Review*, **76**, 8, (1949), pp. 1141–1145.

[ERICSSON95A] G. Ericsson and NPF Collaboration. "The MPR Neutron Spectrometer Project". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 413–416. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[ERIKSSON89A] L.-G. Eriksson, T. Hellsten, D. A. Boyd, D. J. Campbell, J. G. Cordey, W. G. F. Core, et al., "Calculations of Power Deposition and Velocity Distributions During ICRH: Comparison with Experimental Results", *Nuclear Fusion*, **29**, 1, (1989), pp. 87–92.

[ERIKSSON92A] L.-G. Eriksson, H. Berk, F. Procelli, and R. Stankiewicz, "Non-standard High Energy Ion Orbits", in W. Freysinger, K. Lackner, R. Schrittwieser, and W. Lindinger, editors, *Europhysics Conference Abstracts (Proc. of the International Conference on Plasma Physics, Innsbruck, 1992)*, (EPS, Geneva, 1992), Vol. 16C, part II, pp. 1469–1472.

[ESPOSITO91A] B. Esposito, F. B. Marcus, J. M. Adams, S. W. Conroy, O. N. Jarvis, M. J. Loughlin, , G. Sadler, P. van Belle, and N. Watkins, "Ti(r) Profiles from the JET Neutron Profile Monitor for Ohmic Discharges", in *Proc. of the 18th European Conference on Controlled Fusion and Plasma Physics, Berlin, 1991*, (EPS, Petit-Lancy, 1991), Vol. IV, pp. 277–280.

[ESPOSITO92A] B. Esposito, F. B. Marcus, J. M. Adams, S. Conroy, O. N. Jarvis, M. J. Loughlin, G. Sadler, P. van Belle, and N. Watkins, "Ohmic Ion Temperature and Thermal Diffusivity Profiles from the JET Neutron Emission Profile Monitor", *Plasma Physics and Controlled Fusion*, **35**, (1993), pp. 1433–1440. preprint in JET-P(92)102.

[ESPOSITO96A] B. Esposito, R. Martin Solis, P. van Belle, O. N. Jarvis, F. B. Marcus, G. Sadler, R. Sanchez, B. Fischer, P. Froissard, J. M. Adams, et al., "Runaway Electron Measurements in the JET Tokamak", *Plasma Physics and Controlled Fusion*, **38**, (1996), pp. 2035–2049.

[EVANS76A] Albert E. Evans, Howard O. Menlove, Roddy B. Walton, and Darryl B. Smith, "Radiation Damage to ^{3}He Proportional Counter Tubes", *Nuclear Instruments and Methods*, **133**, 2, (1976), pp. 577–578.

[EVANS79A] A. E. Evans and J. D. Brandenberger, "High Resolution Fast Neutron Spectrometry without Time-of-Flight", *IEEE Transactions on Nuclear Science*, **NS-26**, 1, (1979), pp. 1484–1486.

[FASOLI95A] A. Fasoli, D. Borba, G. Bosia, D. J. Campbell, J. A. Dobbing, C. Gormezano, J. Jacquinot, P. Lavanchy, J. B. Lister, P. Marmillod, J.-M. Moret, A. Santagiustina, and S. Sharapov, "Direct Measurement of the Damping of Toroidicity-Induced Alfvén Eigenmodes", *Physical Review Letters*, **75**, 4, (1995), pp. 645–648.

[FASOLI95B] A. Fasoli, J. B. Lister, S. E. Sharapov, S. Ali-Arshad, G. Bosia, et al., "Overview of Alfvén Eigenmode Experiments in JET", *Nuclear Fusion*, **35**, 12, (1995), pp. 1485–1495.

[FELT90A] J. Felt, Cris W. Barnes, R. E. Chrien, S. A. Cohen, W. W. Heidbrink, D. Manos, and S. Zweben, "PPPL Lorentz Orbit Code", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3262–3264.

[FIEG88A] G. Fieg, "Calibration of a Fast Neutron Spectrometer for D–D Fusion Neutron Diagnostics", Report No. 03.01.02P25, KfK, Karlsruhe, FRG, September 1988.

[FIEG89A] G. Fieg, "Further Investigations on the Energy Resolution of the FNS-1 Neutron-Spectrometer", Report No. 03.01.02P31A, KfK, Karlsruhe, FRG, January 1989.

[FIEG90A] G. Fieg, "Calibration of Fast Neutron He-3 Spectrometers for Fusion Neutron Diagnostics", Report No. 03.01.02P31B, KfK, Karlsruhe, FRG, January 1990.

[FIEG90B] G. Fieg, "Analytical Response Functions for Plasma Neutron Spectra Evaluation Using a He-3 Neutron Spectrometer", Report No. 03.01.02P36A, KfK, Karlsruhe, FRG, July 1990.

[FIEG90C] G. Fieg, "Monte Carlo Simulation for Neutron Diagnostics at ASDEX-Upgrade", Report No. 03.01.02P36B, KfK, Karlsruhe, FRG, August 1990.

[FIEG91A] G. Fieg, "Neutron and Gamma Radiation Shield for the ASDEX-Upgrade He-3 Neutron Spectrometer", Report No. 03.01.02P39A, KfK, Karlsruhe, FRG, February 1991.

[FIEG91B] G. Fieg, "Monte Carlo Calculations with the MCNP Code for Investigations of Neutron and Photon Transport at the ASDEX Upgrade Tokamak", Report No. KfK 4851, KfK, Karlsruhe, FRG, March 1991.

[FIEG92A] G. Fieg, "Monte Carlo Calculations with MCNP for the Collimation System of the ASDEX Upgrade He-3 Neutron Spectrometer", Report No. 31.01.02P01A, KfK, Karlsruhe, FRG, October 1992.

[FIORE90A] C. L. Fiore and R. S. Granetz, "Neutron Diagnostic Experiment for Alcator C-Mod", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3166–3168.

[FIORE92A] C. L. Fiore, R. Boivin, R. S. Granetz, T. Fuller, and C. Kurz, "Status of the Neutron Diagnostic Experiment for Alcator C-Mod", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4530–4532.

[FIORE95A] C. L. Fiore and R. L. Boivin, "Performance of the Neutron Diagnostic System for Alcator C-Mod", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 945–947.

[FISCH92A] Nathaniel J. Fisch and Jean-Marcel Rax, "Interaction of Energetic Alpha Particles with Intense Lower Hybrid Waves", *Physical Review Letters*, **69**, 4, (1992), pp. 612–615.

[FISCH94A] N. J. Fisch, E. J. Valeo, C. F. F. Karney, and R Majeski, "Possibility of Using Ion-Bernstein Waves for Alpha Power Extraction in Tokamaks", in E. Joffrin, P. Platz, and P. E. Stott, editors, *Europhysics Conference Abstracts (Proc. of the 21th EPS Conference on Controlled Fusion and Plasma Physics, Montpellier, 1994)*, (EPS, Geneva, 1994), Vol. 18B, part II, pp. 640–643.

[FISCH95A] N. J. Fisch and M.C. Herrmann, "Alpha Power Channelling with Two Waves", *Nuclear Fusion*, **35**, 12, (1995), pp. 1753–1760.

[FISCHER88A] U. Fischer, "Monte Carlo Shielding Calculations in the Double Null Configuration of NET", Report No. KFK 4411, KFK, Karlsruhe, FRG, May 1988.

[FISCHER90A] U. Fischer. *Die Neutronenphysikalische Behandlung eines (d,t) Fusionsreaktors nach dem Tokamakprinzip (NET).* PhD thesis, Universität Karlsruhe, 1990. Report Nr. KfK 4790, KfK Karlsruhe, FRG, Oct. 1990.

[FISHER83A] W. A. Fisher, S. H. Chen, D. Gwinn, and R. R. Parker, "Measurement of the D–D Fusion Neutron Energy Spectrum and Variation of the Peak Width with Plasma Ion Temperature", *Phys. Rev. A*, **28**, 5, (1983), pp. 3121–3124.

[FISHER84A] W. A. Fisher, S. H. Chen, D. Gwinn, and R. R. Parker, "A Fast Neutron Spectrometer for D–D Fusion Neutron Measurements at the Alcator C Tokamak", *Nuclear Instruments and Methods in Physics Research*, **219**, (1984), pp. 179–191.

[FISHER88A] Raymond K. Fisher, J. Stephen Leffler, Arthur M. Howald, and Paul B. Parks, "Fast Alpha Diagnostics Using Pellet Injection", *Fusion Technology*, **13**, 4, (1988), pp. 536–542.

[FISHER89A] R. K. Fisher, "Summary of the U.S.-Japan Workshop on Evaluation of Impurity Pellet Injection for Alpha Diagnostics, San Diego, California, January 16–17, 1989", *Fusion Technology*, **16**, (1989), pp. 107–112.

[FISHER90A] R. K. Fisher, J. M. McChesney, A. M. Howald, P. B. Parks, D. M. Thomas, S. C. McCool, and W. L. Rowan, "Fast Alpha Diagnostics Using Carbon Pellet Injection", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3196–3198.

[FISHER92A] R. K. Fisher, J. M. McChesney, A. W. Howald, P. B. Parks, J. A. Snipes, J. L. Terry, E. S. Marmar, S. J. Zweben, and S. S. Medley, "Alpha Particle Diagnostics Using Impurity Pellet Injection", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4499–4504.

[FISHER94A] R. K. Fisher, P. B. Parks, J. M. McChesney, and M. N. Rosenbluth, "Fast Alpha Particle Diagnostics Using Knock-On Ion Tails", *Nuclear Fusion*, **34**, 10, (1994), pp. 1291–1297.

[FISHER95A] R. K. Fisher, J. M. McChesney, P. B. Parks, H. H. Duong, S. S. Medley, A. L. Roquemore, D. K. Mansfield, R. V. Budny, M. P. Petrov, and R. E. Olson, "Measurements of Fast Confined Alphas on TFTR", *Physical Review Letters*, **75**, 5, (1995), pp. 846–849.

[FISHER95B] R. K. Fisher, C. W. Barnes, A. Gondhalekar, P. B. Parks, J. M. McChesney, A. L. Roquemore, and M. N. Rosenbluth. "ITER Alpha Particle Diagnostics Using Knock-on Ion Tails". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 485–494. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[FISHER97A] R. K. Fisher, H. H. Duong, J. M. McChesney, P. B. Parks, S. S. Medley, R. V. Budny, D. K. Mansfield, A. L. Roquemore, M. P. Petrov, and N. N. Gorelenkov, "Alpha Diagnostics Using Pellet Charge Exchange: Results on the Tokamak Fusion Test Reactor and Prospects for ITER", *Review of Scientific Instruments*, **68**, 1, (1997), pp. 336–339.

[FLYNN64A] K. F. Flynn, L. E. Glendenin, E. P. Steinberg, and P. M. Wright, "Pulse Height-Energy Relations for Electrons and Alpha Particles in a Liquid Scintillator", *Nuclear Instruments and Methods*, **27**, (1964), pp. 13–17.

[FOLEY85A] John V. Foley. "TFTR Ion Temperature Measurements by High Resolution Neutron Spectroscopy". Master's thesis, Princeton University, 1985. (Department of Chemical Engineering).

[FOOTE79A] James H. Foote, "Measuring MeV Ions from Fusion Reactions in Magnetic-Mirror Experiments", *Nuclear Fusion*, **19**, (1979), pp. 1215–1222.

[FOWLER79A] E. P. Fowler, "Superscreened Cables", *The Radio and Electronic Engineer*, **49**, (1979), pp. 38–44.

[FREDRICKSON95A] E. D. Fredrickson, M. G. Bell, R.V. Budny, Z. Chang, C. Z. Cheng, et al., "Observation of New Branch of Toroidal Alfvén Eigenmodes in TFTR", *Nuclear Fusion*, **35**, 12, (1995), pp. 1457–1461.

[FREIER54A] G. Freier and H. Holmgren, "Interaction between D^2 and He^3 in the Neighborhood of the 18.6-MeV Level of Li^{5*}", *Physical Review*, **93**, 4, (1954), pp. 825–826.

[FRENJE95A] J. Frenje and NPF Collaboration. "The MPR Neutron Diagnostic at JET - An ITER Prototype Study". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 417–420. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[FRIELING90A] G. J. Frieling, R. Hoekstra, F. J. de Heer, W. Mandl, A. Boileau, H. P. Summers, and M. von Hellermann, "Feasibility of Alpha Particle Diagnostics for the Active Phase of JET, Using Charge Exchange Recombination Spectroscopy", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 1664–1667. Part IV.

[FU89A] G. Y. Fu and J. W. Van Dam, "Stability of the Global Alfvén Eigenmode in the Presence of Fusion Alpha Particles in an Ignited Tokamak Plasma", *Physics of Fluids B: Plasma Physics*, **1**, 12, (1989), pp. 2404–2413.

[FUBINI95A] A. Fubini, E. Bittoni, M. Haegi, and S. Rollet. "Alpha Slowdown Measurement for ITER". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 509–512. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[FULLER57A] J. C. Fuller, W. E. Dance, and D. C. Ralph, "Angular Distribution of the $D(d,n)^3He$ Reaction Below 1 MeV", *Physical Review*, **108**, 1, (1957), pp. 91–93.

[FUNDAMENSKI96A] W. R. Fundamenski and A. A. Harms, "Evolution and Status of D-^{3}He Fusion: A Critical Review", *Fusion Technology*, **29**, (1996), pp. 313–349.

[FUTCH72A] A. H. Futch, Jr., J. P. Holdren, J. Killeen, and A. A. Mirin, "Multi-Species Fokker-Planck Calculations for D-T and D-^{3}He Mirror Reactors", *Plasma Physics*, **14**, (1972), pp. 211–244.

[GADELMEIER97A] F. Gadelmeier, G. Beikert, B. Wolle, S. Koch, S. Simenon, K. Hübner, R. Bätzner, and TEXTOR-team, "Triton Burnup Measurements at TEXTOR Using Activation Techniques", in M. Schittenhelm, R. Bartiromo, and F. Wagner, editors, *Europhysics Conference Abstracts (Proc. of the 24th EPS Conference on Controlled Fusion and Plasma Physics, Berchtesgaden, 1997)*, (EPS, Petit-Lancy, 1997), Vol. 21A, part IV, pp. 1753–1756.

[GALONSKY56A] A. Galonsky and C. H. Johnson, "Cross Sections for the T(d,n)He^4 Reaction", *Physical Review*, **104**, 2, (1956), pp. 421–425.

[GANEEV57A] A. S. Ganeev, A. M. Govorov, G. M. Osetinskii, A. N. Rakivnenko, I. V. Sizov, and V. S. Siksin, "The D–D Reaction in the Deuteron Energy Range 100–1000 keV", *Supplement No. 5 of Sov. J. At. Energy, Atomnaya Energiya (1957)*, pp. 21–36.

[GENTILINI80A] Achille Gentilini, Jean Pierre Rager, Karl Steinmetz, Massimo Tacchi, Davide Antonini, Biagio Arcipiani, Pietro Moioli, Edmondo Pedretti, and Raffaele Scafè, "Comparison of four Calibration Techniques of a Silver Activated Geiger Counter for the Determination of the Neutron Yield on the Frascati Plasma Focus Experiment", *Nuclear Instruments and Methods*, **172**, (1980), pp. 541–552.

[GERBER90A] K. A. Gerber and J. D. Sethian, "Neutron Measurements on ZFX", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3169–3171.

[GERDIN87A] G. Gerdin, "Refueling Pellets as a Source of Charge Exchange Neutrals for Alpha Particle Measurements", *Physics of Fluids*, **30**, 12, (1987), pp. 3782–3800.

[GIBSON90A] A. Gibson and The JET Team, "Fusion Relevant Performance in JET", *Plasma Physics and Controlled Fusion*, **32**, 11, (1990), pp. 1083–1100.

[GIBSON92A] The JET TEAM, "Experiments Using Deuterium-Tritium Plasmas in the JET Tokamak", in *Plasma Physics and Controlled Nuclear Fusion Research 1992*, (IAEA, Vienna, 1993), Vol. 1, pp. 429–429.

[GLASGOW74A] D. W. Glasgow, D. E. Velkley, J. D. Brandenberger, M. T. McEllistrem, H. J. Hennecke, and D. V. Breitenbecher, "Shielding for fast Neutron Scattering Experiments of High Sensitivity", *Nuclear Instruments and Methods*, **114**, (1974), pp. 521–534.

[GOLDBERG60A] Murrey D. Goldberg and James M. Le Blanc, "Angular Distribution of the D(d,n)He^3 Reaction for 5- to 12-MeV Deuterons", *Physical Review*, **119**, 6, (1960), pp. 1992–1999.

[GOLDBERG61A] Murrey D. Goldberg and James M. Le Blanc, "Angular Yield of Neutrons from the T(d,n)He^4 Reaction for 6- to 11.5-MeV Deuterons", *Physical Review*, **122**, 1, (1961), pp. 164–168.

[GOLDSTON81A] R. J. Goldston, R. B. White, and A. H. Boozer, "Confinement of High-Energy Trapped Particles in Tokamaks", *Physical Review Letters*, **47**, 9, (1981), pp. 647–649.

[GOLO87A] V. Ya. Goloborod'ko, Ya. I. Kolesnichenko, and V. A. Yavorskij, "Alpha Particle Transport Processes in Tokamaks", *Physica Scripta*, **T 16**, (1987), pp. 46–52.

[GOLO89A] V. Ya. Goloborod'ko and V. A. Yavorskij, "Angular Distribution of Alpha Particle Flux on the First Wall of a Tokamak", in *Proc. of the 16th European Conference on Controlled Fusion and Plasma Physics, Venice, 1989*, (EPS, Petit-Lancy, 1989), Vol. 13B of *Europhysics Conference Abstracts*, pp. 419–422. Part I.

[GOLO90A] V. Ya. Goloborod'ko and V. A. Yavorskij, "Kinetic Equation for High-Energy Particles of Axisymmetric Tokamaks in Terms of Constants of Motion", *Fusion Technology*, **18**, 3, (1990), pp. 414–424.

[GOLO90B] V. Ya. Goloborod'ko, Ya. I. Kolesnichenko, V. V. Lutsenko, S. N. Reznik, and V. A. Yavorskij, "Ripple-Induced Transport Processes of Fast Alpha Particles and Alpha Wall Load in ITER-like Reactors", *Fusion Technology*, **18**, 3, (1990), pp. 429–435.

[GOLOBORODKO95A] V. Ya. Goloborod'ko, S. N. Reznik, V. A. Yavorskij, and S. J. Zweben, "Fokker-Planck 3-D Modelling of Axisymmetric Collisional Losses of Fusion Products in TFTR", *Nuclear Fusion*, **35**, 12, (1995), pp. 1523–1535.

[GONDHALEKAR78A] A. Gondhalekar, R. Granetz, D. Gwinn, I. Hutchinson, B. Kusse, E. Marmar, D. Overskei, D. Pappas, R. R. Parker, M. Pickrell, et al., "Study of the Energy Balance in Alcator", in *Plasma Physics and Controlled Nuclear Fusion Research 1978*, (IAEA, Vienna, 1979), Vol. 1, pp. 199–209.

[GOODALL89A] D. H. J. Goodall, G. M. McCracken, J. P. Coad, R. A. Causey, G. Sadler, and O. N. Jarvis, "Measurement of Tritium Distribution in JET", *Journal of Nuclear Materials*, **162–164**, (1989), pp. 1059–1064.

[GORELENKOV91A] N. N. Gorelenkov and A. V. Krasilnikov, "Possibilities of Alpha-Particle Diagnostics in Future Tokamaks Using Helium and Lithium Beam Injection", *Fusion Technology*, **19**, 2, (1991), pp. 207–216.

[GORELENKOV95A] N. N. Gorelenkov and C. Z. Cheng, "Alfvén Cyclotron Instability and Ion Cyclotron Emission", *Nuclear Fusion*, **35**, 12, (1995), pp. 1743–1752.

[GORINI85A] G. Gorini, M. Hone, O. N. Jarvis, J. Källne, V. Merlo, G. Sadler, and P. van Belle, "Ion Temperature Measurement in JET using Neutron Spectra", in *Basic Physical Processes of Toroidal Fusion Plasmas*, (Varenna, 1985), Vol. I, pp. 133–140. EUR 10418 EN.

[GORINI87A] G. Gorini, P. Batistoni, E. Bittoni, J. Källne, S. Podda, and A. Taroni, "Calculation of the Classical Triton Burn-Up in JET Deuterium Plasmas", Report No. JET-P(87)35, JET, Culham, GB, July 1987.

[GORINI88A] G. Gorini and M. A. Kovanen, "A Comparison Study of the 1 MeV Triton Burn-up in JET using the HECTOR and SOCRATES codes", Report No. JET-R(88)09, JET, Culham, GB, 1988.

[GORINI90A] G. Gorini, J. Källne, and S. Rollet, "Physics Studies of Compact Ignition Plasmas Using Neutron Measurements", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 1652–1655. Part IV.

[GORINI90B] G. Gorini and N Gottardi, "Inversion Methods for Analysis of Neutron Brightness Measurements in Tokamaks", Report No. JET-P(90)03, JET, Culham, GB, February 1990.

[GORINI92A] G. Gorini and J. Källne, "High Count Rate Time-of-Flight Spectrometer for DD Fusion Neutrons", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4548–4550.

[GORINI93A] G. Gorini and J. Källne, "Neutron Spectrometry Diagnosis of DT Fusion Experiments", *Comments on Plasma Physics and Controlled Fusion*, **15**, 4, (1993), pp. 193–209.

[GORINI95A] G. Gorini and NPF Collaboration. "Detailed Ion Temperature Information from the Neutron Emission Spectrum". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 421–424. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[GORINI97A] G. Gorini, L. Ballabio, and J. Källne, "Neutron Spectrometry Diagnostic of Triton Burn-up in Deuterium Fusion Plasmas", *Plasma Physics and Controlled Fusion*, **39**, 1, (1997), pp. 61–71.

[GREENE67A] Samuel L. Greene, Jr., "Maxwell Averaged Cross Sections for some Thermonuclear Reactions on Light Isotopes", Report No. UCRL-70522, LRL, Livermore, CA, May 1967.

[GRISHAM83A] L. R. Grisham and J. D. Strachan, "Princeton Large Tokamak Scaling Laws for Thermonuclear Fusion Power Multiplication", *Nuclear Technology/Fusion*, **4**, (1983), pp. 46–53.

[GRISHAM83B] Larry R. Grisham, Douglass E. Post, and John M. Dawson, "A Nuclear Diagnostic for Fast Alpha Particles", *Nuclear Technology/Fusion*, **4**, (1983), pp. 452–455. preprint in PPPL-1962, 1982.

[GRISHAM83C] Larry R. Grisham, Douglass E. Post, and David R. Mikkelsen, "Multi-MeV Li^0 Beam as a Diagnostic for Fast Confined Alpha Particles", *Nuclear Technology/Fusion*, **3**, (1983), pp. 121–128. preprint in PPPL-1886.

[GROSSHOEG79A] Gudmar Grosshoeg, "Neutron Ionization Chambers", *Nuclear Instruments and Methods*, **162**, (1979), pp. 125–160.

[GUO92A] G. C. Guo, Y. Z. Zhong, J. F. Dong, B. Z. Fu, J. W. Yang, G. Y. Zhang, W. X. Liang, D. F. Gong, and M. L. Shi, "Sawtooth Activity and Photoneutron Production", in W. Freysinger, K. Lackner, R. Schrittwieser, and W. Lindinger, editors, *Europhysics Conference Abstracts (Proc. of the International Conference on Plasma Physics, Innsbruck, 1992)*, (EPS, Geneva, 1992), Vol. 16C, part I, pp. 395–398.

[GWINN78A] David Gwinn and Robert Granetz, "Observation of Neutron and X-ray Sawteeth in Alcator", Report No. RR-78-8, MIT Plasma Fusion Center, 1978.

[HAEGI95A] M. Haegi, E. Bittoni, A. Fubini, and S. Rollet, "Gamma Diagnostics on Charged Fusion Products in a Thermonuclear Plasma", *Nuclear Fusion*, **35**, 12, (1995), pp. 1625–1630.

[HAGEMANN91A] U. Hagemann and D. Richter, "Integrale Neutronenquellstärkemessungen am ASDEX Upgrade – Vorbereitende Untersuchungen –", Report No. 03.01.02P39B, KfK, Karlsruhe, FRG, December 1991.

[HALE79A] G. M. Hale and D. C. Dodder, "R-Matrix Analyses of Light-Element Reactions for Fusion Applications", in J. L. Fowler, editor, *Proc. of the Int. Conf. on Nuclear Cross Sections for Technology, Knoxville, 1979*, (NBS, Washington, 1980), pp. 650–658. NBS special publication 594.

[HALE79B] Gerald M. Hale. "Data for Fusion Reactions". LASL memo T-2-L-3360, July 31, 1979, last updated Sept. 1986.

[HALE86A] Gerald M. Hale. "d-t Cross Section and Reaction Rate". LANL memo T-2-M-1767, September 17, 1986.

[HALE87A] G. M. Hale, Ronald E. Brown, and Nelson Jarmie, "Pole Structure of the $J^\pi = \frac{3}{2}^+$ Resonance in ^{5}He", *Physical Review Letters*, **59**, 7, (1987), pp. 763–766. comment in vol 59, pages 2818–2819.

[HALE90A] G. M. Hale, R. D. Smith, and T. L. Talley, "Nuclear Reactions and Screened-Coulomb Fusion Rates", *Journal of Fusion Energy*, **9**, 2, (1990), pp. 187–193.

[HALE90B] G. M. Hale, "Nuclear Physics of the Muon-catalyzed $d+d$ Reactions", *Muon Catalyzed Fusion*, **5**, (1990), pp. 227–232. preprint in LA-UR-91-786, 1990.

[HAMNEN85A] Håkan Hamnén and James D. Hanson, "The Fast Alpha Particle Distribution Function in an Open Field-Line Plasma with Electrostatic Confining Potential", Report No. IFSR-162, IFS Austin, Texas, November 1984.

[HANEY90A] Scott W. Haney, L. John Perkins, John Mandrekas, and Weston M. Stacey, Jr., "Active Control of Burn Conditions for the International Thermonuclear Experimental Reactor", *Fusion Technology*, **18**, 4, (1990), pp. 606–617.

[HAWKES93A] N. P. Hawkes, P. van Belle, P. Dixon, M. A. Hone, O. N. Jarvis, M. J. Loughlin, and M. T. Swinhoe, "A 2.5MeV Neutron Spectrometry System with a Tangential Line of Sight for the D-D Phase at the JET Tokamak", *Nuclear Instruments and Methods in Physics Research*, **A 335**, (1993), pp. 533–546. preprint in JET-P(93)22, April 1993.

[HEIDBRINK83A] W. W. Heidbrink, R. E. Chrien, and J. D. Strachan, "Burn-up of Fusion-Produced Tritons and ^{3}He Ions in PLT and PDX", *Nuclear Fusion*, **23**, 7, (1983), pp. 917–931.

[HEIDBRINK84A] William Walter Heidbrink. *Tokamak Diagnostics using Fusion Products.* PhD thesis, Princeton University, June 1984.

[HEIDBRINK84B] W. W. Heidbrink, Ralph Hay, and J. D. Strachan, "Confinement of Fusion Reaction Products during the Fishbone Instability", *Physical Review Letters*, **53**, 20, (1984), pp. 1905–1908. preprint in PPPL-2135, September 1984.

[HEIDBRINK84C] W. W. Heidbrink, "Fusion Reaction Spectra Produced by Anisotropic ^{3}He Ions During ICRF", *Nuclear Fusion*, **24**, 5, (1984), pp. 636–639.

[HEIDBRINK85A] W. W. Heidbrink and J. D. Strachan, "Tokamak Ion Temperature and Poloidal Field Diagnostics using 3-MeV Protons", *Review of Scientific Instruments*, **56**, 4, (1985), pp. 501–518. preprint in PPPL-2136, October 1985.

[HEIDBRINK85B] W. W. Heidbrink, "Energy Spectra from "beam-target" Nuclear Reactions in Magnetic Fusion Devices", *Nuclear Instruments and Methods*, **A236**, (1985), pp. 380–384.

[HEIDBRINK85C] W. W. Heidbrink, "Analytical Expressions for Fusion Spectra Produced in "beam-target" Fusion Reactions", *Review of Scientific Instruments*, **56**, 5, (1985), pp. 1098–1099.

[HEIDBRINK86A] W. W. Heidbrink, J. D. Strachan, R. E. Bell, A. Cavallo, R. Motley, G. Schilling, J. Stevens, and J. R. Wilson, "Fast Ion Profiles during Neutral Beam and Lower Hybrid Heating", *Plasma Physics and Controlled Fusion*, **28**, 6, (1986), pp. 871–878.

[HEIDBRINK86B] W. W. Heidbrink, "Neutron Fluctuation Measurements on TFTR", *Review of Scientific Instruments*, **57**, 8, (1986), pp. 1769–1770.

[HEIDBRINK86C] W. W. Heidbrink, "Energetic Ion Diagnostics Using Neutron Flux Measurements during Pellet Injection", *Nuclear Instruments and Methods in Physics Research*, **A248**, (1986), pp. 491–498. preprint in PPPL-2299.

[HEIDBRINK86D] W. W. Heidbrink, "The Utility of Spectral Measurements of Secondary Reaction Products", *Nuclear Instruments and Methods in Physics Research*, **A248**, (1986), pp. 499–500. preprint in PPPL-2301.

[HEIDBRINK87A] W. W. Heidbrink, S. L. Milora, G. L. Schmidt, W. Schneider, and A. Ramsey, "Neutron and Hard X-Ray Measurements During Pellet Deposition in TFTR", *Nuclear Fusion*, **27**, 1, (1987), pp. 3–10. preprint in PPPL-2346, June 1986.

[HEIDBRINK87B] W. W. Heidbrink, J. Lovberg, J. D. Strachan, and R. E. Bell, "Fusion Product Measurements of the local Ion Temperature Gradient in the PLT Tokamak", *Nuclear Fusion*, **27**, 1, (1987), pp. 129–133. preprint in PPL-2315.

[HEIDBRINK87C] W. W. Heidbrink, R. Kaita, H. Takahashi, G. Gammel, G. W. Hammett, and S. Kaye, "Measurements of Beam-Ion Confinement during Tangential Beam-driven Instabilities in a Bean Tokamak Experiment", *Physics of Fluids*, **30**, 6, (1987), pp. 1839–1852.

[HEIDBRINK88A] W. W. Heidbrink, Jinchoon Kim, and R. J. Groebner, "Comparison of Experimental and Theoretical Fast Ion Slowing-Down Times in DIII-D", *Nuclear Fusion*, **28**, 10, (1988), pp. 1897–1901. preprint in GA-A19111, March 1988.

[HEIDBRINK90A] W. W. Heidbrink, "Measurements of Classical Deceleration of Beam Ions in the DIII-D Tokamak", *Physics of Fluids B: Plasma Physics*, **2**, 1, (1990), pp. 4–5. preprint in GA-A 19709, August 1989.

[HEIDBRINK90B] W. W. Heidbrink and G. Sager, "The Fishbone Instability in the DIII-D Tokamak", *Nuclear Fusion*, **30**, 6, (1990), pp. 1015–1025.

[HEIDBRINK91A] W. W. Heidbrink, E. J. Strait, E. Doyle, G. Sager, and R. T. Snider, "An Investigation of Beam Driven Alfvén Instabilities in the DIII-D Tokamak", *Nuclear Fusion*, **31**, 9, (1991), pp. 1635–1648. preprint in GA-A20254, February 1991.

[HEIDBRINK91B] W. W. Heidbrink, Cris W. Barnes, G. W. Hammett, Y. Kusama, S. D. Scott, M. C. Zarnstorff, L. C. Johnson, D. McCune, S. S. Medley, H. K. Park, A. L. Roquemore, J. D. Strachan, and G. Taylor, "The Diffusion of Fast Ions in Ohmic TFTR Discharges", *Physics of Fluids B: Plasma Physics*, **3**, 11, (1991), pp. 3167–3170. preprint in PPPL-2777, July 1991.

[HEIDBRINK93A] W. W. Heidbrink, E. J. Strait, M. S. Chu, and A. D. Turnbull, "Observation of Beta-induced Alfvén Eigenmodes in the DIII-D Tokamak", *Physical Review Letters*, **71**, 6, (1993), pp. 855–858.

[HEIDBRINK94A] W. W. Heidbrink and G. J. Sadler, "The Behaviour of Fast Ions in Tokamak Experiments", *Nuclear Fusion*, **34**, 4, (1994), pp. 535–615.

[HEIDBRINK95A] W. W. Heidbrink, "Beam-Driven Chirping Instability in DIII-D", *Plasma Physics and Controlled Fusion*, **37**, (1995), pp. 937–949. preprint in GA-A21988, April 1995.

[HEIDBRINK95B] W. W. Heidbrink, E. M. Carolipio, R. A. James, and E. J. Strait, "Summary of Recent Studies of Beam-Driven BAE and Chirping Modes in DIII-D", *Nuclear Fusion*, **35**, 12, (1995), pp. 1481–1483. preprint in GA-A22040, May 1995.

[HEIDBRINK96A] W. W. Heidbrink, S. H. Batha, R. E. Bell, Z. Chang, D. S. Darrow, J. Fang, E. D. Fredrickson, R. A. James, F. M. Levinton, R. Nazikian, et al., "Search for Alpha Driven BAEs in TFTR", *Nuclear Fusion*, **36**, 12, (1996), pp. 1725–1731.

[HEIDBRINK97A] W. W. Heidbrink, P. L. Taylor, and J. A. Phillips, "Measurements of the Neutron Source Strength at DIII-D", *Review of Scientific Instruments*, **68**, 1, (1997), pp. 536–539.

[HEIDBRINK97B] W. W. Heidbrink, A. Fasoli, D. Borba, and A. Jaun, "Stable Ellipticity-Induced Alvén Eigenmodes in the Joint European Torus", *Physics of Plasmas*, **4**, 10, (1997), pp. 3663–3666.

[HELLERMANN87A] Manfred von Hellermann, Alain Boileau, Lorne Horton, Nichol Peacock, Uwe Schumacher, and Hugh Summers, "Present Results of Charge Exchange Recombination Spectroscopy on JET and Prospects for Future Alpha Particle Diagnostics", in *Proc. of the 14th European Conference on Controlled Fusion and Plasma Physics, Madrid, 1987*, (EPS, Petit-Lancy, 1987), Vol. 11D of *Europhysics Conference Abstracts*, pp. 1260–1263. Part III.

[HELLERMANN90A] M. von Hellermann, W. Mandl, H. P. Summers, A. Boileau, R. Hoekstra, F. J. De Heer, and J. Frieling, "Investigation of Thermal and Slowing-Down Alpha Particles on JET using Charge-Exchange Spectroscopy", *Plasma Physics and Controlled Fusion*, **33**, 14, (1991), pp. 1805–1824. preprint in JET-P(90)59, November 1990.

[HELLERMANN92A] M. G. von Hellermann, W. G. F. Core, J. Frieling, L. D. Horton, R. W. T. König, W. Mandl, and H. P. Summers, "Observation of Alpha Particle Slowing-Down Spectra in JET Helium Beam Fuelling and Heating Experiments", *Plasma Physics and Controlled Fusion*, **35**, (1993), pp. 799–824. preprint in JET-P(92)95, Nov. 1992.

[HELLERMANN92B] M. G. von Hellermann, W. G. F. Core, J. Frieling, L. D. Horton, R. T. W. Koenig, W. Mandl, H. P. Summers, and B. Wolle, "Investigation of Alpha Particle Slowing-down Features in Helium Neutral Beam Fuelling Experiments at JET", in W. Freysinger, K. Lackner, R. Schrittwieser, and W. Lindinger, editors, *Europhysics Conference Abstracts (Proc. of the International Conference on Plasma Physics, Innsbruck, 1992)*, (EPS, Geneva, 1992), Vol. 16C, part II, pp. 1035–1038.

[HEMMEN55A] A. Hemmendinger and H. V. Argo, "Reaction D(t,α)n at 1.5 MeV", *Physical Review*, **98**, 1, (1955), pp. 70–72.

[HENDEL82A] H. W. Hendel, "Neutron Yields and Spectra from Fusion Plasmas", in *Diagnostics for Fusion Reactor Conditions*, (Varenna, 1982), pp. 383–400. EUR 8351-I-EN.

[HENDEL82B] H. W. Hendel, K. Matsuoka, and L. E. Samuelson, "Tokamak Fusion Test Reactor Fusion-Reaction-Products Diagnostics", in *Proc. of the Fourth ASTM-EURATOM Symposium on Reactor Dosimetry*, (Gaithersburg, MD, USA, 1982), Vol. II, pp. 949–958.

[HENDEL85A] H. W. Hendel, L. P. Ku, D. C. Long, E. B. Nieschmidt, and J. D. Strachan, "Collimated ZnS(Ag)-Detector Array for Tokamak Fusion Test Reactor Neutron Source Strength Radial Profile Measurements", *Review of Scientific Instruments*, **56**, 5, (1985), pp. 1081–1083.

[HENDEL86A] H. W. Hendel, A. C. England, D. L. Jassby, A. A. Mirin, and E. B. Nieschmidt, "Fusion–Neutron Production in the TFTR with Deuterium Neutral-Beam Injection", *Journal of Fusion Energy*, **5**, 3, (1986), pp. 231–244. preprint in PPPL-2318.

[HENDEL86B] H. W. Hendel, "Tokamak Fusion Test Reactor Neutron Source Strength Measurements - Instrumentation and Results", *IEEE Transactions on Nuclear Science*, **33**, 1, (1986), pp. 670–674.

[HENDEL87A] H. W. Hendel, D. L. Jassby, M. L. Bitter, and G. Taylor, "Reduction in TFTR Fusion Reaction Rate by Unbalanced Beam Injection and Rotation", in *Proc. of the 14th European Conference on Controlled Fusion and Plasma Physics, Madrid, 1987*, (EPS, Petit-Lancy, 1987), Vol. 11D of *Europhysics Conference Abstracts*, pp. 53–56. Part I.

[HENDEL88A] H. W. Hendel, D. L. Jassby, H. S. Bosch, Cris W. Barnes, L. C. Johnson, T. J. Murphy, E. B. Nieschmidt, T. Saito, J. D. Strachan, G. D. Tait, and K. M. Young, "TFTR Epithermal Neutron Detector System: Recalibration and Effect of Nonisotropic Neutron Emission", *Review of Scientific Instruments*, **59**, 8, (1988), pp. 1682–1684.

[HENDEL89A] H. W. Hendel and D. L. Jassby, "The Tokamak as a Neutron Source", *Nuclear Science and Engineering*, **106**, (1990), pp. 114–137. preprint in PPPL-2656, November 1989.

[HENDEL90A] H. W. Hendel, R. W. Palladino, Cris W. Barnes, M. Diesso, J. S. Felt, D. L. Jassby, L. C. Johnson, L.-P. Ku, Q. P. Liu, R. W. Motley, H. B. Murphy, J. Murphy, E. B. Nieschmidt, J. A. Roberts, T. Saito, J. D. Strachan, R. J. Waszazak, and K. M. Young, "In Situ Calibration of TFTR Neutron Detectors", *Review of Scientific Instruments*, **61**, 7, (1990), pp. 1900–1914.

[HERRMANN95A] H. W. Herrmann, D. S. Darrow, J. R. Timberlake, S. J. Zweben, the TFTR Group, G. P. Chong, C. S. Pitcher, and R. G. Macauley-Newcombe, "Foil Deposition Alpha Collector Probe for TFTR's D-T Phase", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 351–353.

[HERRMANN97A] H. W. Herrmann, S. J. Zweben, D. S. Darrow, J. R. Timberlake, G. P. Chong, A. A. Haasz, C. S. Pitcher, and R. G. Macauley-Newcombe, "Deuterium-Tritium Results of TFTR's Alpha Collector", *Nuclear Fusion*, **37**, 3, (1997), pp. 293–320.

[HIVELY77A] L. M. Hively, "Convenient Computational Forms for Maxwellian Reactivities", *Nuclear Fusion*, **17**, 4, (1977), pp. 873–876.

[HIVELY77B] L. M. Hively and G. H. Miley, "Fusion Product Bombardment of a Tokamak First Wall", *Nuclear Fusion*, **17**, 5, (1977), pp. 1031–1046.

[HIVELY80A] Lee Mizener Hively. *Fusion-Product Transport in Axisymmetric Tokamaks: Losses and Thermalization.* PhD thesis, University of Illinois, Urbana-Champaign,Ill, 1980. Report Nr. COO-2218-156, U. of Illinois.

[HIVELY83A] Lee M. Hively, "A Simple Computational Form for Maxwellian Reactivities", *Nuclear Technology/Fusion*, **3**, (1983), pp. 199–200.

[HIVELY84A] L. M. Hively, "TF-Ripple Losses from a Non-Circular Tokamak", *Nuclear Fusion*, **24**, 6, (1984), pp. 779–783.

[HIVELY90A] Lee M. Hively and D. J. Sigmar, "Bibliography of Fusion Product Physics in Tokamaks", *Fusion Technology*, **17**, (1990), pp. 316–342.

[HOEK92A] Magnus Hoek, "Monte-Carlo Calculations of Efficiency, Resolution and Response Functions for the New Neutron Time-of-Flight Spectrometer at JET", *Nuclear Instruments and Methods in Physics Research*, **A 323**, (1992), pp. 656–. preprint in JET-P(92)39, May 1992.

[HOEK92B] Magnus Hoek. *Development and Use of Neutron Scintillator Systems for Fusion Plasma Diagnostics.* PhD thesis, Chalmers Unisversity of Technology, Göteborg, November 1992. Report Nr. CTH-RF-93, CTH Göteborg.

[HOEK95A] Magnus Hoek, Takeo Nishitani, Yujiro Ikeda, and Atsuhiko Morioka, "Neutron Yield Measurements by Use of Foil Activation at JT-60U", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 885–887.

[HOEK96A] M. Hoek, T. Nishitani, M. Carlsson, and T. Carlsson, "Triton Burnup Measurements by Neutron Activation at JT-60U", *Nuclear Instruments and Methods in Physics Research*, **A 368**, (1996), pp. 804–814.

[HOEKZEMA90A] J. A. Hoekzema, N. P. Hammond, E. F. Taylor, and A. L. Stevens, "Some Key Technical Developments for the Fast Ion and Alpha Particle Diagnostic System on JET", in *Proc. of the 16th Symposion on Fusion Technology, London, 1990*, (Elsevier, Amsterdam, 1991), Vol. 1, pp. 627–631. preprint in JET-P(90)56, November 1990.

[HOEKZEMA95A] J. A. Hoekzema, H. Bindslev, J. Egedal, J. A. Fessey, C. P. Gatcombe, N. P. Hammond, T. P. Hughes, J. S. Machuzak, J. W. Oosterbeek, P. J. Roberts, et al., "First Observation of Collective Thomson Scattering from JET Plasmas", in B.E. Keen, P.E. Stott, and J. Winter, editors, *Europhysics Conference Abstracts (Proc. of the 22th EPS Conference on Controlled Fusion and Plasma Physics, Bournemouth, 1995)*, (EPS, Geneva, 1995), Vol. 19C, part II, pp. 445–448.

[HOEKZEMA95B] J. A. Hoekzema, H. Bindslev, J. Egedal, J. A. Fessey, and T. P. Hughes, "Collective Thomson Scattering using a Gyrotron from JET Plasmas", Report No. JET-P(95)69, JET, Culham, GB, November 1995. submitted for Publ. Proc. 7th LAPD.

[HOEKZEMA96A] J. A. Hoekzema, H. Bindslev, J. Egedal, J. A. Fessey, C. P. Gatcombe, et al., "First Results of Collective Scattering on JET", Report No. JET-P(96)40, JET, Culham, GB, September 1996. submitted to RSI.

[HOENEN84A] F. Hoenen, "Spherical Ionization Chambers with Improved Energy Resolution for Neutron Spectroscopy", *Nuclear Instruments and Methods in Physics Research*, **223**, (1984), pp. 150–154.

[HOENEN86A] Friedrich Hoenen. *Entwicklung und Optimierung sphärischer Ionisationskammern zur Bestimmung der Ionentemperatur in Fusionsplasmen.* PhD thesis, T. H. Aachen, November 1986. Report Nr. Jül-2097, KFA Jülich, FRG.

[HOENEN87A] F. Hoenen and W. Bieger, "Spherical Pulse Ionization Chambers for Determination of the Ion Temperature in DD Fusion Plasmas", *Nuclear Instruments and Methods in Physics Research*, **A259**, (1987), pp. 529–537.

[HOENEN91A] F. Hoenen, H. Euringer, H.-S. Bosch, A. V. Alevra, H. Klein, and T. Delvigne, "In Situ Calibration of Neutron Detectors on TEXTOR", *Review of Scientific Instruments*, **63**, 3, (1992), pp. 1945–1952.

[HOENEN94A] F. Hoenen, E. Graffmann, K. H. Finken, H.-J. Barrenscheen, H. Klein, and R. Jaspers, "Liquid Scintillation Detectors for Gamma and Neutron Diagnostics at TEXTOR and Results of Runaway and Sawtooth Oscillations", *Review of Scientific Instruments*, **65**, 8, (1994), pp. 2594–2598.

[HOWARTH92A] P.J.A. Howarth, "Performance of the Neutron Emission Profile Diagnostic During the Tritium Experiments at JET", *Journal of the Institution of Nuclear Engineers*, **34**, 3, (1993), pp. 80–87. preprint in JET-IR(92)11, December 1992.

[HOWARTH94A] P. J. A. Howarth, J. M. Adams, D. S. Bond, O. N. Jarvis, F. B. Marcus, and G. Sadler, "Gamma-Ray Emission Profile Measurements During JET ICRH Discharges", in E. Joffrin, P. Platz, and P. E. Stott, editors, *Europhysics Conference Abstracts (Proc. of the 21th EPS Conference on Controlled Fusion and Plasma Physics, Montpellier, 1994)*, (EPS, Geneva, 1994), Vol. 18B, part I, pp. 262–265.

[HUEBNER85A] K. Hübner, R. Bätzner, H. Hinsch, H. Rapp, H. Wurz, A. Eberhagen, O. Gehre, V. Mertens, ASDEX-Team, and NI-Team, "Neutron Production during Deuterium Injection in Deuterium Plasmas in ASDEX", in *Proc. of the 12th European Conference*

on Controlled Fusion and Plasma Physics, Budapest, 1985, (EPS, Petit-Lancy, 1985), Vol. 9F of *Europhysics Conference Abstracts*, pp. 231–234. Part I.

[HUEBNER87A] K. Hübner, R. Bätzner, H. Hinsch, J. Hubele, B. Wolle, B. Bomba, H. Rapp, H. Wurz, ASDEX-Team, and NI-Team, "Nuclear Emulsion Neutron Diagnostics at ASDEX", in *Proc. of the 14th European Conference on Controlled Fusion and Plasma Physics, Madrid, 1987*, (EPS, Petit-Lancy, 1987), Vol. 11D of *Europhysics Conference Abstracts*, pp. 1294–1297. Part III.

[HUEBNER87B] K. Hübner, B. V. Robouch, R. Bätzner, M. Roos, L. Ingrosso, H. Wurz, and ASDEX-Team, "Influence of Neutron Scattering and Source Extent on the Measurement of Neutron Energy Spectra at ASDEX", Report No. IPP-III/122, IPP, Garching, FRG, August 1987.

[HUEBNER88A] K. Hübner, R. Bätzner, H. Hinsch, L. Ingrosso, R. Klein, et al., "Numerical and Experimental Investigation of Neutron Scattering on ASDEX", in *Proc. of the 15th European Conference on Controlled Fusion and Plasma Heating, Dubrovnik, 1988*, (EPS, Petit-Lancy, 1988), Vol. 12B of *Europhysics Conference Abstracts*, pp. 11–14. Part I.

[HUEBNER88B] K. Hübner, R. Bätzner, B. Bomba, H. Rapp, W. Herrmann, H. Murmann, A. Eberhagen, H.-U. Fahrbach, O. Gehre, R. Preis, H. Röhr, K.–H. Steuer, and O. Vollmer, "Ion Temperature Determination from Neutron Rate During Neutral Injection in ASDEX", in *Proc. of the 15th European Conference on Controlled Fusion and Plasma Heating, Dubrovnik, 1988*, (EPS, Petit-Lancy, 1988), Vol. 12B of *Europhysics Conference Abstracts*, pp. 1191–1194. Part III.

[HUEBNER89A] K. Hübner, R. Bätzner, H. Hinsch, L. Ingrosso, R. Mechler, B. V. Robouch, B. Bomba, S. Bosch, H. Rapp, and A. Kallenbach, "Plasma Rotation Effects on Neutron Production and Measurement on ASDEX", in *Proc. of the 16th European Conference on Controlled Fusion and Plasma Physics, Venice, 1989*, (EPS, Petit-Lancy, 1989), Vol. 13B of *Europhysics Conference Abstracts*, pp. 1453–1456. Part IV.

[HUEBNER89B] K. Hübner, S. Lutz, J. Kucinski, B. Bomba, S. Bosch, A. Eberhagen, H.-U. Fahrbach, O. Gehre, W. Herrmann, H. Murmann, H. Rapp, H. Röhr, K.-H. Steuer, and O. Vollmer, "Parameter Studies of Neutron Production During Additional Heating inASDEX", in *Proc. of the 16th European Conference on Controlled Fusion and Plasma Physics, Venice, 1989*, (EPS, Petit-Lancy, 1989), Vol. 13B of *Europhysics Conference Abstracts*, pp. 1457–1460. Part IV.

[HUEBNER89C] K. Hübner, R. Bätzner, B. Bomba, S. Bosch, J. S. Brzosko, C. van Calker, H. Hinsch, L. Ingrosso, R. Klein, J. Kucinski, B. V. Robouch, and B. Wolle, "Tokamak Neutron Calibration at High Yields Using Combined Nuclear Emulsion Measurements, Indium Activation, and VINIA-3DAMC Simulations", Report No. IPP-III/132, IPP, Garching, FRG, August 1989.

[HUEBNER94A] K. Hübner, R. Bätzner, L. Ingrosso, St. Koch, A. A. Saghiri, B. Wolle, and B. V. Robouch, "Monte Carlo Simulation of Neutron Diagnostics by Indium Activation and Nuclear Emulsions at TEXTOR", in E. Joffrin, P. Platz, and P. E. Stott, editors, *Europhysics Conference Abstracts (Proc. of the 21th EPS Conference on Controlled Fusion and Plasma Physics, Montpellier, 1994)*, (EPS, Geneva, 1994), Vol. 18B, part III, pp. 1344–1347.

[HUGHES87A] T.P. Hughes and S.R.P. Smith, "Calculations of Thomson Scattering Functions for Alpha Particle Diagnostics in JET Plasmas", *Nuclear Fusion*, **28**, 8, (1988), pp. 1451–1457. preprint in JET-P(87)46, September 1987.

[HUGHES89A] T. P. Hughes, D. A. Boyd, A. E. Costley, J. A. Hoekzema, S. R. P. Smith, and E. Westerhof, "Physics Aspects of a Thomson Scattering Diagnostic for Fast Ion and Alpha Particle Velocity Distributions in JET", in *Proc. of the 16th European Conference on Controlled Fusion and Plasma Physics, Venice, 1989*, (EPS, Petit-Lancy, 1989), Vol. 13B of *Europhysics Conference Abstracts*, pp. 1509–1512. Part IV.

[HUNTER49A] G. T. Hunter and H. T. Richards, "Yield and Angular Distribution of the D–D Neutrons", *Physical Review*, **76**, 10, (1949), pp. 1445–1449.

[HUTCHINSON85A] D. P. Hutchinson, K. L. Vander Sluis, J. Sheffield, and D. J. Sigmar, "Feasibility of Alpha-Particle Measurement by CO_2 Laser Thomson Scattering", *Review of Scientific Instruments*, **56**, 5, (1985), pp. 1075–1077.

[HUTCHINSON87A] I. H. Hutchinson, "Feasibility of Alpha Particle Diagnosis by Collective Microwave Scattering in Tokamak Fusion Experiments", Report No. JET-R(87)07, JET, Culham, GB, 1987.

[IKEDA89A] Y. Ikeda, C. Konno, Y. Oyama, K. Oishi, and T. Nakamura, "Determination of Neutron Spectrum in D-T Fusion Field By Foil Activation Technique", *Fusion Technology*, **15**, (1989), pp. 1287–1292.

[ISOBE95A] M. Isobe, M. Osakabe, M. Sasao, K. Matsuoka, and J. Fujita, "Absolute Calibration of Neutron Counters on the Compact Helical System", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 923–925.

[IZVOZ88A] A. B. Izvozchikov and M. P. Petrov, "Hydrogen-ion Distribution Function in a Tokamak Plasma", *Sov. J. Plasma Phys.*, **14**, 1, (1988), pp. 5–11. Fiz. Plazmy **14**, 10–19 (January 1988).

[IZVOZCHIKOV91A] A. B. Izvizchikov, A. V. Khudoleev, M. V. Petrov, S. Ya. Petrov, S. S. Kozlovskij, S. Corti, and A. Condhalekar, "Charge-Exchange Diagnostic of Fusion Alpha Particles and ICRF Driven Minority Ions in MeV Energy Range in JET Plasma", Report No. JET-R(91)12, JET, Culham, GB, December 1991.

[JACQUINOT91A] Jean Jacquinot, Guy J. Sadler, and the JET-Team, "D-^{3}He Fusion in the Joint European Torus Tokamak– Recent Experimental Results", *Fusion Technology*, **21**, 4, (1992), pp. 2254–2264. preprint in JET-P(91)07, 1991.

[JACQUINOT92A] J. Jacquinot, M. Bures, and the JET Team, "Joint European Torus Results with both Fast and Lower-Hybrid Waves: Consequences for Future Devices", *Physics of Fluids B: Plasma Physics*, **4**, (1992), pp. 2111–2121.

[JAEGER85A] U. Jäger, L. Bertalot, and H. Herold, "Energy Spectra and Space Resolved Measurements of Fusion Reaction Protons from Plasma Focus Devices", *Review of Scientific Instruments*, **56**, 1, (1985), pp. 77–80.

[JAEGER86A] Ulrich Jäger. *Über die Reaktionsmechanismen im Plasmafokus – Untersuchungen an beschleunigten Deuteronen und Reaktionsprotonen.* PhD thesis, Universität Stuttgart, January 1986. Report Nr. IPF-86-1, IPF Stuttgart, FRG.

[JANOS95A] A. Janos, D. K. Owens, D. Darrow, M. H. Redi, M. C. Zarnstorff, and S. J. Zweben, "Measurement of Limiter Heating Due to Alpha Particle Losses During High Fusion Power Deuterium-Tritium Operation of the TFTR Tokamak", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 354–356.

[JARMIE56A] N. Jarmie, J. D. Seagrave, R. C. Allen, A. Armstrong, H. V. Argo, S. J. Bame, J. E. Brolley, J. H. Coon, G. M. Frye, A. Hemmendinger, et al., "Charged Particle Cross Sections", Report No. LA-2014, LASL, Los Alamos, NM, March 1956.

[JARMIE81A] Nelson Jarmie, "Low-Energy Nuclear Fusion Data and their Relation to Magnetic and Laser Fusion", *Nucl. Sci. and Eng.*, **78**, (1981), pp. 404–412.

[JARMIE82A] Nelson Jarmie, Ronald E. Brown, and R. A. Hardekopf, "D(t,α)n Reaction Cross Sections at Low Energy", in K. H. Böckhoff, editor, *Proc. of the Int. Conf. on Nuclear Data for Science and Technology, Antwerpen, 1982*, (Reidel, Dordrecht, Nl, 1983), pp. 318–325.

[JARMIE84A] Nelson Jarmie, Ronald E. Brown, and R. A. Hardekopf, "Fusion-Energy Reaction ^{2}H(t,α)n from E_t = 12.5 to 117 keV", *Physical Review*, **C29**, 6, (1984), pp. 2031–2046. erratum in **C33** (1986), p. 385.

[JARMIE85A] Nelson Jarmie and Ronald E. Brown, "Low-Energy Nuclear Reactions with Hydrogen Isotopes", *Nuclear Instruments and Methods in Physics Research*, **B10/11**, (1985), pp. 405–410.

[JARMIE86A] Nelson Jarmie, "Requirements for Charged-Particle Reaction Cross Sections in the D–T, D–D, and D–^{3}He Fuel Cycles", in *Proc. of an Advisory Group Meeting on Nuclear Data for Fusion Reactor Technology, Gaussig, GDR, 1986*, (IAEA, Vienna, 1988), pp. 79–86. preprint in Los Alamos report LA-UR-86-3705.

[JARVIS53A] R. G. Jarvis and D. Roaf, "Comparison of D–T and D–^{3}He at Low Energies", *Proc. Roy. Soc. London*, **A 218**, (1953), pp. 432–438.

[JARVIS81A] O. N. Jarvis, "Scientific and Engineering Design of a Time Resolved Neutron Yield Monitor Diagnostic System for JET", Report No. AERE G 1955, A.E.R.E. Harwell, GB, July 1981. Not for Publication.

[JARVIS82A] O. N. Jarvis, "Neutron Detection Techniques for Plasma Diagnostics", in *Diagnostics for Fusion Reactor Conditions*, (Varenna, 1982), pp. 383–400. EUR 8351-I-EN.

[JARVIS82B] O. N. Jarvis, M. T. Swinhoe, and P. Dixon, "Time-Integrated Yield Neutron Monitor for JET", Report No. G 2094, A.E.R.E. Harwell, GB, October 1982. Not for Publication.

[JARVIS82C] O. N. Jarvis, M. T. Swinhoe, and P. Dixon, "Proposed Neutron Diagnostic Systems for JET", in *Proc. of the Fourth ASTM-EURATOM Symposium on Reactor Dosimetry*, (Gaithersburg, MD, USA, 1982), Vol. II, pp. 771–782.

[JARVIS84A] O. N. Jarvis, J. Källne, G. Sadler, P. van Belle, K. H. Beimer, T. Elevant, and A. R. Talbot, "Calibration of the Neutron Yield Detectors on the JET Tokamak", Report No. JET-IR(84)02, JET, Culham, 1984.

[JARVIS84B] O. N. Jarvis and M. T. Swinhoe, "KN1 - Design Considerations and Performance Specification", Report No. G 3018, A.E.R.E. Harwell, GB, February 1984. Not for Publication.

[JARVIS85A] O. N. Jarvis, J. Källne, G. Sadler, P. van Belle, M. Hone, V. Merlo, E. W. Lees, M. T. Swinhoe, A. R. Talbot, and B. H. Armitage, "Further Calibrations of the Time Resolved Neutron Yield Monitor (KN1)", Report No. JET-IR(85)06, JET, Culham, 1985.

[JARVIS85B] O. N. Jarvis, "Nuclear Data Involved in Present Day Fusion Reactors", Report No. JET-P(85)22, JET, Culham, 1985. KTG/ENS Int. State of the Art Seminar on Nuclear Data, Cross-section Libraries and their Application in Nuclear Technology, Bonn, October 1–2, 1985.

[JARVIS86A] O. N. Jarvis, G. Gorini, M. Hone, J. Källne, G. Sadler, V. Merlo, and P. van Belle, "Neutron Spectrometry at JET", *Review of Scientific Instruments*, **57**, 8, (1986), pp. 1717–1722.

[JARVIS87A] O. N. Jarvis and A. E. Costley, "A Summary of the Workshop on Alpha-Particle Diagnostics Held at JET on 9-10 December 1986", Report No. JET-P(87)05, JET, Culham, 1987.

[JARVIS87B] O. N. Jarvis, S. Corti, M. Hone, G. Gorini, J. Källne, V. Merlo, P. D. Morgan, G. Sadler, and P. van Belle, "Ion Temperature Measurements Using Neutron Spectrometry", in *Proc. of the 14th European Conference on Controlled Fusion and Plasma Physics, Madrid, 1987*, (EPS, Petit-Lancy, 1987), Vol. 11D of *Europhysics Conference Abstracts*, pp. 1220–1223. Part III.

[JARVIS87C] O. N. Jarvis, G. Gorini, J. Källne, V. Merlo, G. Sadler, and P. van Belle, "Determination of the Deuterium Plasma Density Ratio $\hat{n}_d/\hat{n}_e$ through Neutron Measurements", *Nuclear Fusion*, **27**, 11, (1987), pp. 1755–1763. preprint in JET-P(87)08, 1988.

[JARVIS87D] O. N. Jarvis, "Fusion Product Measurements at JET", Report No. JET-R(87)15, JET, Culham, GB, 1987.

[JARVIS87E] O. N. Jarvis, G. Sadler, and J. L. Thompson, "Photoneutron Production Accompanying Plasma Disruptions in JET", *Nuclear Fusion*, **28**, 11, (1988), pp. 1981–1993. preprint in JET-(87)50.

[JARVIS88A] O. N. Jarvis, G. Sadler, and J. L. Thompson, "Study of Photoneutron Production Accompanying Plasma Disruptions in JET", in *Proc. of the 15th European Conference on Controlled Fusion and Plasma Heating, Dubrovnik, 1988*, (EPS, Petit-Lancy, 1988), Vol. 12B of *Europhysics Conference Abstracts*, pp. 334–337. Part I.

[JARVIS88B] O. N. Jarvis, G. Sadler, A. Avery, and K. A. Verschuur, "Activation of the JET Vacuum Vessel: A Comparison of Calculated with Measured Gamma–Radiation Fluxes and Dose-Rates", Report No. JET-R(88)05, JET, Culham, GB, 1988.

[JARVIS89A] O. N. Jarvis, J. M. Adams, B. Balet, S. Conroy, J. G. Cordey, T. Elevant, P. D. Morgan, G. Sadler, N. Watkins, and P. van Belle, "Determination of Deuterium Concentrations in JET Plasmas from Fusion Reaction Rate Measurements", in *Proc. of the 16th European Conference on Controlled Fusion and Plasma Physics, Venice, 1989*, (EPS, Petit-Lancy, 1989), Vol. 13B of *Europhysics Conference Abstracts*, pp. 15–18. Part I.

[JARVIS89B] O. N. Jarvis, J. M. Adams, B. Balet, S. W. Conroy, J. G. Cordey, T. Elevant, R. D. Gill, M. J. Loughlin, W. Mandl, P. D. Morgan, D. Pasini, G. Sadler, N. Watkins, P. van Belle, M. von Hellermann, and H. Weisen, "Determination of Deuterium Concentrations in JET Plasmas", *Nuclear Fusion*, **30**, 2, (1990), pp. 307–315. preprint in JET-P(89)55, 1989.

[JARVIS90A] O. N. Jarvis, "JET Fusion Product Diagnostics - Implications for NET and ITER", Report No. JET-IR(90)01, JET, Culham, GB, February 1990. Not For Publication.

[JARVIS90B] O. N. Jarvis, G. Sadler, P. van Belle, and T. Elevant, "In-vessel Calibration of the JET Neutron Monitors Using a ^{252}Cf Neutron Source: Difficulties experienced", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3172–3174.

[JARVIS90C] Owen N. Jarvis, Edwards W. Clipsham, Malcolm A. Hone, Brian J. Laundy, Mario Pillon, Massimo Rapisarda, Guy J. Sadler, Pieter van Belle, and Karl A. Verschuur, "Use of Activation Techniques for the Measurement of Neutron Yields from Deuterium Plasmas at the Joint European Torus", *Fusion Technology*, **20**, 3, (1991), pp. 265–284. preprint in JET-P(90)46, September 1990.

[JARVIS91A] O. N. Jarvis. "Neutron Diagnostics for Tokamak Experiments". in S. M. Quaim, editor, *Nuclear Data for Science and Technology*, pp. 253–258. Springer, Berlin, 1992. preprint in JET-P(91)13, April 1991.

[JARVIS91B] O. N. Jarvis, J. M. Adams, S. W. Conroy, F. B. Marcus, G. Sadler, N. Watkins, and P. van Belle, "Triton Burnup in JET – Profile Effects", in *Proc. of the 18th European Conference on Controlled Fusion and Plasma Physics, Berlin, 1991*, (EPS, Petit-Lancy, 1991), Vol. 15C of *Europhysics Conference Abstracts*, pp. 21–24. Part I.

[JARVIS92A] O. N. Jarvis, "Neutron Measurements from the Preliminary Tritium Experiment at JET", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4511–4516.

[JARVIS94A] O. N. Jarvis, S. W. Conroy, M. Hone, G. J. Sadler, and P. van Belle, "15-MeV Proton Emission from ICRF-Heated Plasmas", in E. Joffrin, P. Platz, and P. E. Stott, editors, *Europhysics Conference Abstracts (Proc. of the 21th EPS Conference on Controlled Fusion and Plasma Physics, Montpellier, 1994)*, (EPS, Geneva, 1994), Vol. 18B, part I, pp. 270–273.

[JARVIS94B] O. N. Jarvis, "Neutron Measurement Techniques for Tokamak Plasmas", *Plasma Physics and Controlled Fusion*, **36**, (1994), pp. 209–244. preprint in JET-P(93)30, April 1993.

[JARVIS95A] O. N. Jarvis, J. M. Adams, D. Bond, M. Hone, P. J. A. Howarth, M. J. Loughlin, F. B. Marcus, G. Sadler, P. van Belle, and N. Watkins, "The Effect of a Sawtooth Crash on Fast Particle Behaviour", in B.E. Keen, P.E. Stott, and J. Winter, editors, *Europhysics Conference Abstracts (Proc. of the 22th EPS Conference on Controlled Fusion and Plasma Physics, Bournemouth, 1995)*, (EPS, Geneva, 1995), Vol. 19C, part IV, pp. 57–60.

[JARVIS95B] O. N. Jarvis, J. M. Adams, P. J. A. Howarth, F. B. Marcus, E. Righi, G. J. Sadler, D. F. H. Start, P. van Belle, C. D. Warrick, and N. Watkins, "Gamma-Ray Emission Profile Measurements from JET ICRF-Heated discharges", *Nuclear Fusion*, **36**, 11, (1996), pp. 1513–1530. preprint in JET-P(95)53, November 1995.

[JARVIS95C] O. N. Jarvis, J. M. Adams, F. B. Marcus, and G. J. Sadler, "Neutron Profile Measurements in JET", Report No. JET-P(95)67, JET, Culham, GB, November 1995. presented at 7th Toki Conference, 1995.

[JARVIS97A] O. N. Jarvis, "Prediction/Modelling of the Neutron Emission from Hot-Ion H-Mode Discharges in JET", *Plasma Physics and Controlled Fusion*, **39**, (1997), pp. 1571–1598. preprint in JET-P(97)06, March 1997.

[JASSBY74A] D. L. Jassby, "Maximum Power Gains of Radio-Frequency-Driven Two-Energy-Component Tokamak Reactors", Report No. MATT-1080, PPPL, 1974. Proc. of the Second Topical Conference on RF Plasma Heating, Lubbock, Texas, 20-22 June 1974.

[JASSBY75A] D. L. Jassby, "Nuclear Reactions between Energetic Deuterons in Contemporary Beam-Injected Tokamak Experiments", *Physics Letters*, **55A**, 4, (1975), pp. 225–226.

[JASSBY76A] D. L. Jassby and H. H. Towner, "Fusion Reactivities and Power Multiplication Factors of Beam-Driven Toroidal Reactors with both D and T Injection", *Nuclear Fusion*, **16**, 6, (1976), pp. 911–924.

[JASSBY77A] D. L. Jassby, "Neutral-Beam-Driven Tokamak Fusion Reactors", *Nuclear Fusion*, **17**, 2, (1977), pp. 309–365.

[JASSBY78A] D. L. Jassby, H. H. Towner, and R. J. Goldston, "Reduced Fusion-Neutron Production in Non-Axisymmetric Tokamak Devices", *Nuclear Fusion*, **18**, 6, (1987), pp. 825–833.

[JASSBY79A] D. L. Jassby, "Fusion-Neutron Production During Protium Beam Injection into Protium-Deuterium Plasmas", *Nuclear Instruments and Methods*, **158**, (1979), pp. 611–612.

[JASSBY79B] D. L. Jassby, "Maximum Neutron Yields in Experimental Fusion Devices", Report No. PPPL-1515, PPPL, February 1979.

[JASSBY81A] D. L. Jassby and G. R. Imel, "A Fusion Energy Calorimeter for the Tokamak Fusion Test Reactor", Report No. PPPL-1791, PPPL, 1981. Proc. of the Fourth Topical Meeting on the Technology of Controlled Nuclear Fusion, King-of-Prussia, Pennsylvania, October 14–17, 1980.

[JASSBY86A] D. L. Jassby, "Application of Small-Signal Fusion Energy Gain", Report No. PPPL-2397, PPPL, Princeton, NJ, November 1986.

[JASSBY87A] D. L. Jassby, H. W. Hendel, Cris W. Barnes, S. Bosch, F. E. Cecil, D. C. McCune, E. B. Nieschmidt, and J. D. Strachan, "Fission-Detector Determination of D-D Triton Burnup Fraction in Beam-Heated TFTR Plasmas", in *Proc. of the 14th European Conference on Controlled Fusion and Plasma Physics, Madrid, 1987*, (EPS, Petit-Lancy, 1987), Vol. 11D of *Europhysics Conference Abstracts*, pp. 1264–1267. Part III.

[JASSBY88A] D. L. Jassby, H. W. Hendel, and H.-S. Bosch, "Relative Intensities of 2.5- and 14-MeV Source Neutrons from Comparative Responses of U-235 and U-238 Detectors", *Review of Scientific Instruments*, **59**, 8, (1988), pp. 1688–1690. preprint in PPPL-2515.

[JASSBY91A] D. L. Jassby, C. W. Barnes, M. G. Bell, M. Bitter, R. Boivin, N. L. Bretz, R. V. Budny, C. E. Bush, H. F. Dylla, P. C. Efthimion, et al., "High-Q Plasmas in the TFTR Tokamak", *Physics of Fluids B: Plasma Physics*, **3**, 8, (1991), pp. 2308–2314. invited talk at the 1990 APS meeting in Cincinnati, Ohio.

[JASSBY95A] D. L. Jassby, Cris W. Barnes, L. C. Johnson, A. L. Roquemore, J. D. Strachan, D. W. Johnson, S. S. Medley, and K. M. Young, "Absolute Calibration of Tokamak Fusion Test Reactor Neutron Detectors for D-T Plasma Operation", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 891–893.

[JET88A] JET Team, "High Temperature Experiments and Fusion Product Measurements in JET", in *Plasma Physics and Controlled Nuclear Fusion Research 1988*, (IAEA, Vienna, 1989), Vol. 1, pp. 247–255.

[JET90A] The JET Team, "ICRF Heating in Reactor Grade Plasmas", in *Plasma Physics and controlled Nuclear Fusion Research 1990*, (IAEA, Vienna, 1991), Vol. 1, pp. 679–686.

[JET91A] JET Team, "JET: Progress in Performance and Understanding", *Plasma Physics and Controlled Fusion*, **33**, 13, (1991), pp. 1453–1477.

[JET92A] JET Team, "Fusion Energy Production from a Deuterium-Tritium Plasma in the JET Tokamak", *Nuclear Fusion*, **32**, 2, (1992), pp. 187–203.

[JET92B] The JET Team, "The JET Preliminary Tritium Experiment", *Plasma Physics and Controlled Fusion*, **34**, 13, (1992), pp. 1749–1758.

[JIZHOU87A] LI Jizhou, LU Hanlin, MA Hongchang, ZHAO Wenrong, CUI Yunfeng, FAN Peiguo, and WANG Dahai, "Angular Distribution of the T(d,n)^{4}He Reaction at 1, 1.5 And 2 MeV Deuteron Energy", *Nuclear Instruments and Methods in Physics Research*, **A225**, (1987), pp. 115–116.

[JOHNER87A] J. Johner, "Optimized Monomial Approximations with Integer Exponents of the Deuterium-Tritium Thermonuclear Reaction Rate", Report No. EUR-CEA-FC-1320, C.E.N., Cadarache, February 1987.

[JOHNSON77A] R. H. Johnson, D. T. Ingersoll, B. W. Wehring, and J. J. Dorning, "NE-213 Neutron Spectrometry System for Measurements from 1.0 to 20 MeV", *Nuclear Instruments and Methods*, **145**, (1977), pp. 337–346.

[JOHNSON90A] L. C. Johnson, K. W. Hill, J. D. Gilbert, and D. Jassby, "Impact of Radiation Measurements on Hardening of TFTR Diagnostics", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3256–3258.

[JOHNSON92A] L. C. Johnson, "Validation of Spatial Profile Measurements of Neutron Emission in TFTR Plasmas", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4517–4522.

[JOHNSON94A] L. C. Johnson, P. C. Efthimion, J. D. Strachan, E. Synakowski, M. Zarnstorff, D. McCune, A. L. Roquemore, M. Loughlin, Cris W. Barnes, and TFTR group, "Tritium Transport Studies on TFTR", in E. Joffrin, P. Platz, and P. E. Stott, editors, *Europhysics Conference Abstracts (Proc. of the 21th EPS Conference on Controlled Fusion and Plasma Physics, Montpellier, 1994)*, (EPS, Geneva, 1994), Vol. 18B, part I, pp. 182–185.

[JOHNSON95A] L. C. Johnson, Cris W. Barnes, H. H. Duong, W. W. Heidbrink, D. L. Jassby, M. J. Loughlin, A. L. Roquemore, E. Ruskov, and J. D. Strachan, "Cross-Calibration of Neutron Detectors for Deuterium-Tritium Operation in TFTR", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 894–896.

[JOHNSON95B] L. C. Johnson, C. W. Barnes, R. E. Bell, M. Bitter, R. V. Budny, C. E. Bush, D. S. Darrow, H. H. Duong, P. C. Efthimion, R. K. Fisher, et al. "Fusion Product Measurements in D-T Plasmas in TFTR". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 369–378. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[JONES61A] W. M. Jones, K. M. Young, and A. C. L. Barnard, "Measurements of the Proton Energies from SCEPTRE III", *Journal of Nuclear Energy Part C*, **3**, (1961), pp. 8–13.

[JONES90A] T. T. C. Jones, P. J. Lomas, S. Attenberger, J. P. Christiansen, G. A. Cottrell, R. Gianella, L. de Kock, P. Kupschus, G. McCracken, C. G. Lowry, et al., "The Fusion Performance of JET Limiter Plasmas Using Be Coated Graphite and Solid Be Surfaces", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 9–12. Part I.

[KAELLNE85A] J. Källne and T. Elevant, "Neutron Time-of-Flight Spectrometer for Diagnostics of D-T Fusion Plasma", Report No. JET-P(85)03, JET, Culham, GB, 1985.

[KAELLNE86A] J. Källne, "Proceedings of Third JET Workshop on Neutron and Charged Particle Diagnostics", Report No. JET-IR(86)04, JET, Culham, GB, 1986.

[KAELLNE87A] J. Källne, G. Gorini, O. N. Jarvis, G. Martin, V. Merlo, G. Sadler, and P. van Belle, "Measurements of the Burn-up of Fast ^{3}He and ^{3}H Ions in Deuterium Plasmas", *Physica Scripta*, **T 16**, (1987), pp. 160–170.

[KAELLNE88A] J. Källne, P. Batistoni, G. Gorini, G. B. Huxtable, M. Pillon, S. Podda, and M. Rapisarda, "Triton Burnup Measurements in JET using a Neutron Activation Technique", *Nuclear Fusion*, **28**, (1988), pp. 1291–1297. preprint in JET-P(88)09.

[KAELLNE89A] Jan Källne, "The Role of Neutron Measurements in the Study of Burning Fusion Plasmas", *Comments on Plasma Physics and Controlled Fusion*, **12**, 5, (1989), pp. 235–248.

[KAELLNE90A] Jan Källne, "Neutron Beam Measurements at High-Power Fusion Plasmas", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3160–3162.

[KAELLNE91A] J. Källne, P. Batistoni, and G. Gorini, "On the Possibility of Neutron Spectrometry for Determination of Fuel Ion Densities in DT Plasmas", *Review of Scientific Instruments*, **62**, 12, (1991), pp. 2871–2874.

[KAELLNE92A] J. Källne and G. Gorini, "A Neutron Camera for Burning Plasmas", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4545–4547.

[KAELLNE92B] Jan Källne and Giuseppe Gorini, "Alpha-Particle Information on Burning Deuterium-Tritium Plasmas from Neutron Measurements", *Fusion Technology*, **22**, (1992), pp. 439–453.

[KAELLNE92C] Jan Källne and Harald Enge, "Magnetic Proton Recoil Spectrometer for Fusion Plasma Neutrons", *Nuclear Instruments and Methods in Physics Research*, **A311**, (1992), pp. 595–602.

[KAELLNE92D] J. Källne, G. Gorini, H. Condé, and P. U. Renberg, "Neutron Spectrometry Concepts for Diagnosing DT Plasmas of $Q \approx 1$", in W. Freysinger, K. Lackner, R. Schrittwieser, and W. Lindinger, editors, *Europhysics Conference Abstracts (Proc. of the International Conference on Plasma Physics, Innsbruck, 1992)*, (EPS, Geneva, 1992), Vol. 16C, part II, pp. 1047–1050.

[KAELLNE93A] J. Källne and G. Gorini, "Count Rate Performance of Spectrometers for Fusion Neutrons", *Review of Scientific Instruments*, **64**, 10, (1993), pp. 2765–2770.

[KAELLNE95A] J. Källne, L. Ballabio, S. Conroy, G. Ericsson, J. Frenje, P. U. Renberg, E. Traneus, G. Gorini, and M. Tardocchi, "Multiple Neutron Spectrometer Diagnostic for ITER", in B.E. Keen, P.E. Stott, and J. Winter, editors, *Europhysics Conference Abstracts (Proc. of the 22th EPS Conference on Controlled Fusion and Plasma Physics, Bournemouth, 1995)*, (EPS, Geneva, 1995), Vol. 19C, part IV, pp. 381–384.

[KAELLNE95B] J. Källne and NPF Collaboration. "Neutron Spectrometry for ITER". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 397–406. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[KAITA86A] R. Kaita, W. W. Heidbrink, G. W. Hammett, A. A. Chan, A. C. England, H. W. Hendel, S. S. Medley, E. Nieschmidt, A. L. Roquemore, S. D. Scott, J. D. Strachan, G. D. Tait, G. Taylor, C. E. Thomas, and K.-L. Wong, "Charge Exchange and Fusion Reaction Measurements During Compression Experiments with Neutral Beam Heating in the Tokamak Fusion Test Reactor", *Nuclear Fusion*, **26**, 7, (1986), pp. 863–871. preprint in PPPL-2321.

[KALADZE87A] T. D. Kaladze, "Interaction of Alpha Particles with Irregular and Regular Structures of Thermonuclear Plasma", *Physica Scripta*, **T 16**, (1987), pp. 27–45.

[KALADZE90A] T. D. Kaladze and K. N. Stepanov, "Absorption of Fast Magnetosonic Waves by Alpha Particles in Tokamak Plasmas", *Fusion Technology*, **18**, 3, (1990), pp. 487–495.

[KAMELANDER89A] G. Kamelander, "Calculation of Alpha Transport Phenomena Solving a Modified Fokker-Planck-Equation", in *Proc. of the 16th European Conference on Controlled Fusion and Plasma Physics, Venice, 1989*, (EPS, Petit-Lancy, 1989), Vol. 13B of *Europhysics Conference Abstracts*, pp. 1393–1396. Part IV.

[KAMELANDER90A] Gerald Kamelander, "Alpha-Particle Transport Studies Using a Modified Fokker-Planck Equation and Semiempirical Transport Laws", *Fusion Technology*, **18**, 3, (1990), pp. 384–388.

[KAMELANDER91A] G. Kamelander, "Fusion Alpha Particle Transport Studies Using Energy Dependent Diffusion Coefficients", in *Proc. of the 18th European Conference on Controlled Fusion and Plasma Physics, Berlin, 1991*, (EPS, Petit-Lancy, 1991), Vol. 15C of *Europhysics Conference Abstracts*, pp. 373–376. Part IV.

[KAMELANDER91B] G. Kamelander and D. J. Sigmar. "Evolution of α-Particle Distribution in Burning Tokamaks Including Energy Dependent α Transport Coefficients". presented at the IAEA-α-particle meeting, Göteborg, June 1991, to be published in Physica Scripta.

[KAMELANDER92A] G. Kamelander and D. J. Sigmar, "Evolution of α-Particle Distribution in Burning Tokamaks Including Energy Dependent α Transport Effects", *Physica Scripta*, **45**, (1992), pp. 147–152.

[KAMELANDER95A] G. Kamelander, Ya. I. Kolesnichenko, and V. V. Lutsenko, "Effect of TAE Instability on Local and Global Energy Losses of Alpha Particles", *Nuclear Fusion*, **35**, 12, (1995), pp. 1679–1685.

[KARLSSON95A] J. Karlsson and T. Elevant, "Scaling Formulas for DD Neutron Emission in JET", Report No. JET-IR(95)04, JET, Culham, GB, September 1995.

[KARULIN85A] N. E. Karulin and S. V. Putvinskij, "Some Theoretical Aspects of Charged Fusion Product Plasma Diagnostics", *Nuclear Fusion*, **25**, 8, (1985), pp. 961–970.

[KASILOV92A] S. V. Kasilov, A. I. Pyatak, and K. N. Stepanov, "Nonlocal Interaction of Fast Magnetosonic Waves with Alpha-Particles in Tokamaks", *Physica Scripta*, **45**, (1992), pp. 167–172.

[KATSAUROV62A] L. N. Katsaurov, "Investigations of the Reaction D(T,n)He^4 by the Thin-Target Method in the Energy Range from 40 to 750 keV", *Akad, Nauk, SSSR, Trudy Fizicheskii Inst.*, **14**, (1962), pp. 224–262.

[KELLY82A] W. L. Kelly, K. H. Valentine, and M. K. Kopp, "Ultrahigh-Sensitivity Fission Counter for Source-Range Neutron Flux Monitoring in the Clinch River Breeder Reactor", Report No. CRBRP-PMC 82-4, Clinch River Breeder Reactor Plant, Technical Review Fall 1982, October 1982.

[KHUDOLEEV92A] A. V. Khudoleev, V. I. Afanasyev, S. Corti, A. Gondhalekar, A. C. Maas, and M. P. Petrov, "Measurements of MeV Energy ICRF Driven Minority Ions in JET", in W. Freysinger, K. Lackner, R. Schrittwieser, and W. Lindinger, editors, *Europhysics Conference Abstracts (Proc. of the International Conference on Plasma Physics, Innsbruck, 1992)*, (EPS, Geneva, 1992), Vol. 16C, part I, pp. 151–154.

[KIPTILYI92A] Vasilij G. Kiptilyi, Alexander V. Matjukov, A. S. Mishin, Victor O. Najdenov, Igor G. Polunovskij, Leonid A. Rassadin, and Igor N. Chugunov, "In-Beam Study of the $^9Be(\alpha, n_1\gamma)^{12}C$ Reaction and Alpha-Particle Diagnostics", *Fusion Technology*, **22**, (1992), pp. 454–460.

[KIPTILYI95A] V. G. Kiptilyi, I. A. Polunovskii, V. O. Naidenov, I. N. Chugunov, V. S. Zaverjaev, S. V. Popovichev, A. V. Khramenkov, S. N. Abramovich, A. G. Zvenigorodskii, and M. V. Savin. "ITER Gamma Diagnostics: 2-D Neutron and Gamma Camera". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 463–466. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[KIPTILYJ90A] V. G. Kiptilyj, A. V. Matjukov, A. S. Mishin, V. O. Najdenov, I. A. Polunovskij, L. A. Rassadin, and I. N. Chugnov, "In-Beam Study of ^{9}Be(α n_1 γ)^{12}C Reaction, Promising as Fast Alpha-Particle Diagnostics in Tokamak Plasmas", in *Proc. of the*

17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 1688–1691. Part IV.

[KIPTILYJ90B] Vasilij G. Kiptilyj, "Capabilities of Gamma Spectroscopy for Fast Alpha-Particle Diagnostics", *Fusion Technology*, **18**, 4, (1990), pp. 583–590.

[KLIUCHAREV56A] A. P. Kliucharev, B. N. Esel'son, and A. K. Val'ter, "A Study of the Reaction of He^3 with Deuterons", *Sov. Phys. Dokl.*, **1**, (1956), pp. 475–477.

[KNOX72A] H. H. Knox and T. G. Miller, "A Technique for Determining Bias Settings for Organic Scintillators", *Nuclear Instruments and Methods*, **101**, (1972), pp. 519–525.

[KOBZEV66A] A. P. Kobzev, V. I. Salatskij, and S. A. Telezhnikov, "Differential Cross Sections for the Reaction D(t,α)n at 115–1650 keV", *Sovjet Journal of Nuclear Physics*, **3**, 6, (1966), pp. 774–776. Translation of J. Nucl. Phys. (U.S.S.R.) **3**, 1060-1063 (June, 1966).

[KOLESNI80A] Ya. I. Kolesnichenko, "The Role of Alpha Particles in Tokamak Reactors", *Nuclear Fusion*, **20**, 6, (1980), pp. 727–780.

[KOLESNI90A] Ya. I. Kolesnichenko and Yu. V. Yakovenko, "Alpha-Particle-Induced Toroidal Flows in Tokamak Reactor Plasma", *Fusion Technology*, **18**, 4, (1990), pp. 597–605.

[KOLESNI92A] Ya. I. Kolesnichenko and Yu. V. Yakovenko, "Sawtooth Oscillations and Fast-Ion Ejection in Tokamaks", *Nuclear Fusion*, **32**, 3, (1992), pp. 449–464.

[KOLESNI92B] Ya. I. Kolesnichenko and Yu. V. Yakovenko, "Alpha Particle Heating During Sawteeth in ITER-like Reactor", *Physica Scripta*, **45**, (1992), pp. 133–137.

[KOLESNI95A] Ya.I. Kolesnichenko and Yu.V. Yakovenko, "Kinetic Description of Redistribution of Fast Ions During Sawtooth Crashes in Tokamaks", *Nuclear Fusion*, **35**, 12, (1995), pp. 1579–1583.

[KONOVALOV90A] Sergey V. Konovalov and Sergey V. Putvinsky, "Numerical Simulation of Fast Ion Orbits in a Tokamak in the Presence of Static Helical Perturbations", *Fusion Technology*, **18**, 3, (1990), pp. 397–402.

[KOROTKOV92A] A. A. Korotkov, V. P. Belik, L. A. Shmaenok, Yu. Ya. Platonov, and N. N. Salashchenko, "Prospects for Investigation of Alpha Particles Velocity Distribution by Charge Exchange Spectroscopy in ITER", in W. Freysinger, K. Lackner, R. Schrittwieser, and W. Lindinger, editors, *Europhysics Conference Abstracts (Proc. of the International Conference on Plasma Physics, Innsbruck, 1992)*, (EPS, Geneva, 1992), Vol. 16C, part II, pp. 1039–1042.

[KOROTKOV92B] A. A. Korotkov, "Helium Stopping Cross-Section in Fusion Plasma Taking into Account the Multistep Collision Processes", in W. Freysinger, K. Lackner, R. Schrittwieser, and W. Lindinger, editors, *Europhysics Conference Abstracts (Proc. of the International Conference on Plasma Physics, Innsbruck, 1992)*, (EPS, Geneva, 1992), Vol. 16C, part II, pp. 1043–1046.

[KOROTKOV95A] A. A. Korotkov, A. Gondhalekar, and A. J. Stuart, "Impurity Induced Neutralization of Megaelectronvolt Energy Protons in JET Plasmas", *Nuclear Fusion*, **37**, 1, (1997), pp. 35–51. preprint in JET-P(95)47, September 1995.

[KOSIARA70A] A. Kosiara and H. B. Willard, "Gamma Ray-Neutron Branching Ratio in the Triton-Deuteron Reaction", *Physics Letters*, **32B**, 2, (1970), pp. 99–100.

[KOVANEN88A] M. A. Kovanen and W. G. F. Core, "HECTOR: A code for the study of high energy charged particles in axisymmetric tokamak plasmas", Report No. JET-R(88)01, JET, Culham, GB, 1988.

[KOVANEN90A] M. A. Kovanen and W. G. F. Core, "HECTOR: A Code for the Study of Charged Particles in Axisymmetric Tokamak Plasmas", Report No. JET-P(90)40, JET, Culham, GB, August 1990.

[KOVANEN91A] M. A. Kovanen, "Monte-Carlo Study of High Power D(T) ICRF Heating in JET", *Nuclear Fusion*, **32**, 6, (1992), pp. 945–950. preprint in JET-P(91)24, June 1991.

[KRASHENI90A] Sergei I. Krasheninnikov, Tatyana K. Soboleva, and K. Gac, "Kinetic Approach to the Helium Transport in a Divertor Plasma Along the Magnetic Field", *Fusion Technology*, **18**, 3, (1990), pp. 425–428.

[KRASILNIKOV95A] A. V. Krasilnikov. "Diamond Detector Based DT Neutron Spectrometer for ITER". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 435–444. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[KRAUSS87A] A. Krauss, H. W. Becker, H. P. Trautvetter, C. Rolfs, and K. Brand, "Low-Energy Fusion Cross Sections of D + D and D + ^{3}He Reactions", *Nuclear Physics*, **A465**, (1987), pp. 150–172.

[KRUGER96A] S. E. Kruger, R. V. Budny, J. D. Callen, Z. Chang, C. H. Skinner, and J. D. Strachan, "Investigations of Tritium Recycling in TFTR Using the DT Neutron Rate", *Nuclear Fusion*, **36**, 8, (1996), pp. 1053–1056.

[KU83A] Long-Poe Ku and Joseph G. Kolibal, "Radioactivation Characteristics for the Tokamak Fusion Test Reactor", *Nuclear Technology/Fusion*, **4**, (1983), pp. 586–598.

[KU85A] L. P. Ku, J. G. Kolibal, and S. L. Liew, "A Comparison of 1-, 2-, and 3-Dimensional Modeling of the TFTR for Nuclear Radiation Transport Analysis", Report No. PPPL-2244, PPPL, Princeton, NJ, September 1985.

[KU89A] L. P. Ku, H. W. Hendel, and S. L. Liew, "Calculation of the Absolute Detection Efficiency of a Moderated ^{235}U Neutron Detector on the Tokamak Fusion Test Reactor", *Nuclear Instruments and Methods in Physics Research*, **A280**, (1989), pp. 113–122. preprint in PPPL-2590, February 1989.

[KU90A] L. P. Ku, H. W. Hendel, S. L. Liew, and J. D. Strachan, "Numerical Simulations of In-Situ Neutron Detector Calibration Experiments on the Tokamak Fusion Test Reactor", *Fusion Technology*, **19**, 3, (1991), pp. 418–430. preprint in PPPL-2677, February 1990.

[KU90B] L. P. Ku, R. Nazikian, and V. Prorvitch, "A Proposed Diagnostic for Time-Resolved 14 MeV Neutron Measurements on TFTR", Report No. PPPL-2695, PPPL, Princeton, NJ, June 1990. extended version of the Hyannis paper[KU90C].

[KU90C] L. P. Ku, R. Nazikian, and V. Prorvitch, "A Proposed Diagnostic for Time-Resolved 14 MeV Neutron Measurements on TFTR", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3193–3195.

[KUGEL89A] H. W. Kugel, G. M. Gammel, L. R. Grisham, R. Kaita, J. H. Kamperschroer, R. A. Langley, C. W. Magee, S. S. Medley, T. J. Murphy, A. L. Roquemore, and M. D. Williams, "Measurements of Neutral Beam Species, Impurities, Spatial Divergence, Energy Dispersion, Pressure, and Reionization Using the TFTR U.S. Common Long Pulse Ion Source", *Review of Scientific Instruments*, **60**, 1, (1989), pp. 37–52.

[KUGEL91A] H. W. Kugel, C. W. Barnes, J. Gilbert, J. Greco, K. W. Hill, D. L. Jassby, L. C. Johnson, L. P. Ku, J. Levine, R. W. Motley, and J. D. Strachan, "Measurements of TFTR Radiation Shielding During High Power D-D Operations", *Fusion Technology*, **19**, 3, (1991), pp. 1989–1995.

[KUGEL94A] H. W. Kugel, G. Ascione, S. Elwood, J. Gilbert, D. Hwang, M. Lewis, J. Levine, L.-P. Ku, K. Rule, F. Hajnal, et al., "TFTR Radiation Contour and Shielding Efficiency Measurenments During D-D Operations", *Fusion Technology*, **26**, (1994), pp. 963–970.

[KUGEL95A] H. W. Kugel, G. Ascione, S. Elwood, J. Gilbert, L.-P. Ku, J. Levine, K. Rule, N. Azziz, P. Goldhagen, F. Hajnal, and P. Shebell, "Measurements of Tokamak Fusion Test Reactor D–T Radiation Shielding Efficiency", *Fusion Engineering and Design*, **28**, (1995), pp. 534–544.

[KUNZ55A] W. E. Kunz, "Deuterium He^3 Reaction", *Physical Review*, **97**, 2, (1955), pp. 456–462.

[KUPSCHUS91A] P. Kupschus, B. Balet, D. Bartlett, D. Boucher, C. Challis, G. Corrigan, S. Corti, A. Edwards, L. G. Eriksson, R. Gill, et al., "High Thermonuclear Yield on JET By Combining Enhanced Plasma Performance of ICRH-Heated, Pellet-Peaked Density Profiles with H-Mode Confinement", in *Proc. of the 18th European Conference on Controlled Fusion and Plasma Physics, Berlin, 1991*, (EPS, Petit-Lancy, 1991), Vol. 15C of *Europhysics Conference Abstracts*, pp. 1–4. Part I.

[KUSAMA90A] Y. Kusama, K. Tobita, T. Itoh, M. Nemoto, Y. Tsukahara, H. Kimura, and H. Takeuchi, "Confined Alpha Particle Diagnostics in JT-60U", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3220–3222.

[LAPIN92A] S. N. Lapin, G. W. Cooper, L. Davies, J. E. Bailey, W. A. Stygar, A. Carlson, and P. Reyes, "Range and Straggling Effects on CR-39/ Range-Filter Ion Energy Measurements", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4895–4897.

[LAUNDY93A] Brian J. Laundy and Owen N. Jarvis, "Numerical Study of the Calibration Factors for the Neutron Counters in Use at the Joint European Torus", *Fusion Technology*, **24**, (1993), pp. 150–160. preprint in JET-P(92)60, August 1992.

[LEES86A] E. W. Lees, J. P. Argyle, P. Dixon, G. B. Huxtable, M. T. Swinhoe, A. R. Talbot, O. N. Jarvis, G. Sadler, J. Källne, and P. van Belle, "Neutron Detection Techniques for Plasma Diagnostics at the Joint European Torus (JET)", in Phillip G. Young et. al., editor, *Nuclear Data for Basic and Applied Science*, (Gordon and Breach, New York, 1986), Vol. 2, pp. 1259–1276. also in Radiation Effects, vol. 95, no. 1-4 (1986) 253–270.

[LEHNER67A] G. Lehner and F. Pohl, "Reaktionsneutronen als Hilfsmittel der Plasmadiagnostik", *Zeitschrift für Physik*, **207**, (1967), pp. 83–104. preprint in IPP-I/60, 1967, english translation in LA-TR-67-113.

[LEHNER70A] G. Lehner, "Reaction Rates and Energy Spectra for Nuclear Reactions in High Energy Plasmas", *Zeitschrift für Physik*, **232**, (1970), pp. 174–189.

[LEINBERGER91A] Uwe Leinberger, "Untersuchung der Fusions-Protonen- und Tritonenemission an ASDEX", Report No. IPP-III/171, IPP, Garching, G, January 1991. Masterthesis TU München, October 1990.

[LERCHE90A] R. A. Lerche, M. C. Cable, and D. W. Phillion, "Fast Pb-Glass Neutron-to-Light Converter for ICF Target Burn History Measurements", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3187–3189.

[LI85A] Yan-Ming Li, Swadesh M. Mahajan, and David W. Ross, "Destabilization of Global Alfvén Eigenmodes and Kinetic Alfvén Waves by Alpha Particles in a Tokamak Plasma", Report No. FRCR-276, FRC Austin, Texas, September 1985.

[LIERZER92A] J. R. Lierzer, K. W. Wenzel, R. D. Petrasso, D. H. Lo, J. W. Coleman, C. K. Li, E. Hsieh, and T. Bernat, "A Proton Activation Diagnostic to Measure D-^{3}He Reaction Yields", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4847–4849.

[LILLIE79A] R. A. Lillie, R. G. Alsmiller, Jr., and J. T. Mihalczo, "Design Calculations for a 14-MeV Neutron Collimator", *Nuclear Technology*, **43**, (1979), pp. 373–381.

[LISKIEN73A] Horst Liskien and Arno Paulsen, "Neutron Production Cross Sections and Energies for the Reactions $T(p,n)^3He$, $D(d,n)^3He$ and $T(d,n)^4He$", *Nuclear Data Tables*, **11**, (1973), pp. 569–619.

[LO92A] D. H. Lo, R. D. Petrasso, K. W. Wenzel, J. W. Coleman, C. K. Li, J. R. Lierzer, E. Hsieh, and T. Bernat, "Response of SBDs to MeV Protons, Tritons, and Alphas: Evidence that the Charged-Particle Sensitive Depth is not Generally the Depletion Depth", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4850–4852.

[LO95A] Daniel H. Lo, Réjean L. Boivin, and Richard D. Petrasso, "Escaping Charged Fusion Product Spectrometer on Alcator C-Mod", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 345–347.

[LORENZEN81A] J. Lorenzen, J. Drake, Th. Elevant, D. Haslbrunner, J. Scheffel, and H. O. Zetterström, "Technical Description of the Neutron Time of Flight Spectrometer and Telescope for JET", Report No. Studsvik/NR–81/12, Studsvik Energiteknik AB, Nyköping, Sweden, 1981.

[LORENZEN82A] J. Lorenzen, "Time-of-Flight Spectrometer for 2.45 MeV Fusion Neutrons", in *Diagnostics for Fusion Reactor Conditions*, (Varenna, 1982), Vol. II, pp. 53–64. EUR 8351-II-EN.

[LORENZEN82B] Joachim Lorenzen, James R. Drake, and Jan Scheffel, "Technical Report of the Neutron Time of Flight Spectrometer for JET. Part 2", Report No. Studsvik/NR–82/129, Studsvik Energiteknik AB, Nyköping, Sweden, 1982.

[LOUGHLIN88A] M. J. Loughlin. *Neutron Diagnostics for Fusion Reactors.* PhD thesis, University of Birmingham, GB, April 1988.

[LOUGHLIN89A] M. J. Loughlin, J. M. Adams, N. Hawkes, M. Hone, O. N. Jarvis, B. Laundy, G. Sadler, D. B. Syme, N. Watkins, Watkins, and P. van Belle, "Consequences of Trapped Beam Ions on the Analysis of Neutron Emission Data", in *Proc. of the 16th European Conference on Controlled Fusion and Plasma Physics, Venice, 1989*, (EPS, Petit-Lancy, 1989), Vol. 13B of *Europhysics Conference Abstracts*, pp. 83–86. Part I.

[LOUGHLIN89B] M. J. Loughlin, P. van Belle, N. P. Hawkes, O. N. Jarvis, G. Sadler, and D. B. Syme, "Measurement of the Fractional Thermonuclear Neutron Yield During Deuterium Neutral-Beam Injection into Deuterium Plasmas", *Nuclear Instruments and Methods in Physics Research*, **A281**, (1989), pp. 184–191. preprint in JET-P(89)10, February 1989.

[LOUGHLIN89C] M. J. Loughlin, J. M. Adams, and G. Sadler, "Measurement of the Response Function of a ^{3}He Ionisation Chamber to Monoenergetic Neutrons in the Energy Range 2.0 to 3.0 MeV", *Nuclear Instruments and Methods*, **A 294**, (1990), pp. 606–615. preprint in JET-P(89)73, November 1989.

[LOUGHLIN91A] M. J. Loughlin, J. M. Adams, S. Conroy, T. Elevant, N. Hawkes, O. N. Jarvis, F. B. Marcus, H. Morsi, M. Olsson, G. Sadler, P. van Belle, and M. von Hellermann, "Ion Temperature and Fuel Dilution Measurements using Neutron Spectrometry", in *Proc. of the 18th European Conference on Controlled Fusion and Plasma Physics, Berlin, 1991*, (EPS, Petit-Lancy, 1991), Vol. 15C of *Europhysics Conference Abstracts*, pp. 281–284. Part IV.

[LOUGHLIN94A] M. J. Loughlin, B. Balet, O. N. Jarvis, and P. M. Stubberfield, "Simulation of Triton Burn-Up in JET Plasmas", in E. Joffrin, P. Platz, and P. E. Stott, editors, *Europhysics Conference Abstracts (Proc. of the 21th EPS Conference on Controlled Fusion and Plasma Physics, Montpellier, 1994)*, (EPS, Geneva, 1994), Vol. 18B, part I, pp. 258–261.

[LOUGHLIN95A] M. J. Loughlin, F. E. Cecil, M. Hone, O. N. Jarvis, G. J. Sadler, P. van Belle, and G. Whitfield. "Initial Operation of an ITER Compatible Lost Alpha Detector at JET". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 477–484. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[LOVBERG87A] John Arthur Lovberg. *Ion Energy Balance Determination During ^{3}He-Minority ICRH on PLT Using Fusion-Product Diagnostics.* PhD thesis, Princeton University, August 1987.

[LOVBERG89A] J. A. Lovberg, W. W. Heidbrink, J. D. Strachan, and V. S. Zaveryaev, "Neutron Sawtooth Behavior in the PLT, DIII-D, andTFTR Tokamaks", *Physics of Fluids B: Plasma Physics*, **1**, 4, (1989), pp. 874–892. preprint in PPPPL-2558, October 1988.

[LOVBERG89B] J. Lovberg and J. D. Strachan, "Measurements of the Local Ion Temperature Gradient in the PLT Tokamak and its Use in the Analysis of the Ion Energy Balance", *Nuclear Fusion*, **30**, 12, (1990), pp. 2533–2544. preprint in PPPL-2664, December 1989.

[MACHUZAK90A] J. S. Machuzak, D. Y. Rhee, P. P. Woskov, D. R. Cohn, R. C. Myer, N. Bretz, and P. Efthimion, "Development of High-Power Millimeter and Submillimeter Wavelength Collective Thomson Scattering Diagnostics for Energetic Ion Measurements in Tokamaks", *Review of Scientific Instruments*, **61**, 11, (1990), pp. 3544–3547.

[MACHUZAK92A] J. S. Machuzak, P. P. Woskov, H. Bindslev, M. Comiskey, J. Fessey, J. A. Hoekzema, T. P. Hughes, and F. Orsitto, "Receiver Calibration of the JET Fast Ion and Alpha Particle Diagnostic", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4648–4650.

[MACHUZAK95A] John S. Machuzak, Paul P. Woskov, James Gilmore, Norton L. Bretz, Hyeon K. Park, Richard E. Aamodt, Peter Y. Cheung, David A. Russell, and Henrik Bindslev, "TFTR 60 GHz Alpha Particle Collective Thomson Scattering Diagnostic", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 484–486.

[MANNING42A] H. P. Manning, R. D. Huntoon, F. E. Myers, and V. J. Young, "Distribution in Angle of Protons from the D-D Reaction", *Physical Review*, **61**, (1942), pp. 371–374.

[MARCUS90A] F. B. Marcus, J. M. Adams, A. Cheetham, S. Conroy, W. G. F. Core, O. N. Jarvis, M. J. Loughlin, M. Olsson, G. Sadler, P. Smeulders, P. van Belle, and N. Watkins, "JET Neutron Emission Profiles and Fast Ion Redistribution from Sawteeth", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 331–334. Part I.

[MARCUS90B] F. B. Marcus, J. M. Adams, A. D. Cheetham, S. Conroy, W. G. F. Core, O. N. Jarvis, M. J. Loughlin, M. Olsson, G. Sadler, P. Smeulders, P. van Belle, and N. Watkins, "JET Neutron Emission Profiles and Fast Ion Redistribution during Sawtooth Crashes", *Plasma Physics and Controlled Fusion*, **33**, 4, (1991), pp. 277–287. preprint in JET-P(90)55, November 1990.

[MARCUS90C] F. B. Marcus, J. M. Adams, R. Gill, O. N. Jarvis, G. Sadler, P. Smeulders, P. van Belle, and N. Watkins, "Tomographic Analysis of Data from the JET Neutron Profile Monitor to Deduce the 2-D Spatial and Temporal Evolution of Neutron Emissivity", Report No. JET-P(90)69, JET, Culham, GB, December 1990. presented at IAEA Technical Committee Meeting, Nagoya, 19.- 22.November 1990.

[MARCUS91A] F. B. Marcus, J. M. Adams, D. V. Bartlett, V. Bhatnagar, A. J. Bickley, M. Bures, D. J. Campbell, C. D. Challis, J. Christiansen, S. Conroy, et al., "JET Experiments with 120 keV ^{3}He and ^{4}He Neutral Beam Injection", in *Proc. of the 18th European Conference on Controlled Fusion and Plasma Physics, Berlin, 1991*, (EPS, Petit-Lancy, 1991), Vol. 15C of *Europhysics Conference Abstracts*, pp. 45–48. Part I.

[MARCUS91B] F. B. Marcus, J. M. Adams, A. D. Cheetham, S. Conroy, W. G. F. Core, O. N. Jarvis, M. J. Loughlin, M. Olsson, G. Sadler, P. Smeulders, P. van Belle, and N. Watkins, "JET Neutron Emission Profiles and Fast Ion Redistribution during Sawtooth Crashes", *Plasma Physics and Controlled Fusion*, **33**, 4, (1991), pp. 277–287. preprint in JET-P(90)55, November 1990.

[MARCUS92A] F. B. Marcus, J. M. Adams, D. V. Bartlett, V. Bhatnagar, A. J. Bickley, M. Bures, D. J. Campbell, C. D. Challis, J. Christiansen, S. Conroy, et al., "JET Experiments with 120 keV ^{3}He and ^{4}He Neutral Beam Injection and Neutron Diagnostic Applications", *Plasma Physics and Controlled Fusion*, **34**, (1992), pp. 1371–1378. preprint in JET-P(92)11, February 1992.

[MARCUS92B] F. B. Marcus and W. Core, "Formulae Used in the Investigation of Fusion Yields from High Ion Temperature, Beam-Heated Plasmas", Report No. JET-IR(92)10, JET, Culham, GB, December 1992. Not for Publication.

[MARCUS92C] F. B. Marcus, J. M. Adams, D. S. Bond, S. Conroy, P. J. A. Howarth, O. N. Jarvis, M. J. Loughlin, G. Sadler, P. Smeulders, P. van Belle, and N. Watkins, "Neutron Profile Measurements During the Tritium Experiment in JET", in W. Freysinger, K. Lackner, R. Schrittwieser, and W. Lindinger, editors, *Europhysics Conference Abstracts (Proc. of the International Conference on Plasma Physics, Innsbruck, 1992)*, (EPS, Geneva, 1992), Vol. 16C, part I, pp. 251–254.

[MARCUS93A] F. B. Marcus, J. M. Adams, B. Balet, D. S. Bond, S. W. Conroy, P. J. A. Howarth, O. N. Jarvis, M. J. Loughlin, G. J. Sadler, P. Smeulders, and N. Watkins, "Neutron Emission Profile Measurements During the First Tritium Experiments at JET", *Nuclear Fusion*, **33**, 9, (1993), pp. 1325–1344.

[MARCUS94A] F. B. Marcus, J. M. Adams, D. S. Bond, M. A. Hone, P. J. A. Howarth, O. N. Jarvis, M. J. Loughlin, G. Sadler, and N. Watkins, "Effects of Sawtooth Crashes on Beam Ions and Fusion Product Tritons in JET", in E. Joffrin, P. Platz, and P. E. Stott, editors, *Europhysics Conference Abstracts (Proc. of the 21th EPS Conference on Controlled Fusion and Plasma Physics, Montpellier, 1994)*, (EPS, Geneva, 1994), Vol. 18B, part I, pp. 274–277.

[MARCUS94B] F. B. Marcus, J. M. Adams, D. S. Bond, M. A. Hone, P. J. A. Howarth, O. N. Jarvis, M. J. Loughlin, G. J. Sadler, P. van Belle, and N. Watkins, "Effects of Sawtooth Crashes on Beam Ions and Fusion Product Tritons in JET", *Nuclear Fusion*, **34**, 5, (1994), pp. 687–701.

[MARCUS95A] F. B. Marcus, J. M. Adams, D. Bond, M. A. Hone, O. N. Jarvis, T. T. C. Jones, R. Koenig, M. J. Loughlin, M. F. F. Nave, G. Sadler, B. Schunke, P. Smeulders, and N. Watkins, "Evolution and Optimisation of Neutron Emissivity Profiles in JET", in B.E. Keen, P.E. Stott, and J. Winter, editors, *Europhysics Conference Abstracts (Proc. of the 22th EPS Conference on Controlled Fusion and Plasma Physics, Bournemouth, 1995)*, (EPS, Geneva, 1995), Vol. 19C, part II, pp. 53–56.

[MARCUS95B] F. B. Marcus, J. M. Adams, P. Batistoni, T. Elevant, O. N. Jarvis, L. Johnson, L. de Kock, G. Sadler, and P. Stott, "A Neutron Camera for ITER: Conceptual Design", Report No. JET-IR(95)45, JET, Culham, GB, September 1995. ITER Diagnostics Workshop, Varenna, 1995.

[MARCUS96A] F. B. Marcus, B. Balet, N. Deliyanakis, R. Giannella, C. Gowers, et al., "A Power Stepdown approach to High Performance, Steady-state Operation with ELM-free H-mode Deuterium Plasmas in JET", Report No. JET-P(96)59, JET, Culham, GB, December 1996. submitted to NF.

[MARCUSM90A] M. F. F. Marcus, D. Campbell, E. Joffrin, F. B. Marcus, G. Sadler, P. Smeulders, and K. Thomsen, "Fishbone Activity in JET", Report No. JET-P(90)32, JET, Culham, GB, 1990.

[MARKEVICH84A] D. Markevich and R. R. Smith, "Deuterium Beam Species Measurement by D-D Fusion Product Analysis", *Nuclear Instruments and Methods in Physics Research*, **B4**, (1984), pp. 388–392.

[MARTIN85A] Gilles Martin. *Étude des Produits de Fusion chargées dans un Tokamak*. PhD thesis, Université de Paris Sud, May 1985.

[MARTIN87A] G. Martin, O. N. Jarvis, J. Källne, V. Merlo, G. Sadler, and P. van Belle, "15 MeV Proton Emission from JET Plasmas Exhibiting Sawtooth Behaviour: Results and Interpretation", *Physica Scripta*, **T 16**, (1987), pp. 171–175. preprint in JET-P(86)26.

[MARTIN90A] G. Martin and P. Joyer, "Runaway Electron Production During Major Disruptions in TORE-SUPRA", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 303–306. Part I.

[MARTIN90B] G. Martin, P. Gilles, and P. Joyer, "Fusion Profile Measurement on TORE-SUPRA", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 1584–1587. Part IV.

[MARTONE88A] M. Martone, P. Batistoni, L. Bertalot, P. Pillon, and S. Podda, "Analysis and Preliminary Design of Neutron Diagnostics for NET (First Part): Plasma Diagnostics", Report No. EUR-FU/XII-80/88-86, NET, Garching, FRG, July 1988.

[MAU89A] T. K. Mau, "Role of Alpha Particle Damping in Fast Wave Current Drive and Heating", Report No. UCLA PPG-1237, UCLA, Los Angeles, CA, May 1989. Presented at the Eigth Top. Conf. on Radiofrequency Power in Plasmas, Irvine, CA (May 1989).

[MAUEL92A] M. E. Mauel, G. A. Navratil, S. A. Sabbagh, S. H. Batha, M. G. Bell, R. E. Bell, R. V. Budny, C. E. Bush, A. Cavallo, M. S. Chance, et al., "Achieving High Fusion Reactivity in High Poloidal Beta Discharges in TFTR", in *Plasma Physics and Controlled Nuclear Fusion Research 1992*, (IAEA, Vienna, 1993), Vol. 1, pp. 205–218.

[MCALEES74A] David G. McAlees. *Alpha Particle Energetics and Neutral Beam Heating in Tokamak Plasmas.* PhD thesis, University of Wisconsin, November 1974. Report Nr. ORNL-TM-4661, ORNL, TN.

[MCCAULEY92A] J. Scott McCauley and J. D. Strachan, "Measurement of DT Neutron Emission from TFTR with Helium-4 Proportional Recoil Counters", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4536–4538.

[MCCAULEY93A] John Scott McCauley, Jr. *Measurement and Interpretation of DT Neutron Emission from TFTR.* PhD thesis, Princeton University, 1993.

[MCCLEMENTS95A] K. G. McClements, R. O. Dendy, C. N. Lashmore-Davies, G. A. Cottrell, S. Cauffman, and R. Majeski, "Interpretation of Ion Cyclotron Emission from Sub-Alfvénic Fusion Products in the Tokamak Fusion Test Reactor", *Physics of Plasmas*, **3**, 2, (1996), pp. 543–553. preprint in JET-P(95)15, April 1995.

[MCCLEMENTS95B] K. G. McClements, R. O. Dendy, C. G. Gimblett, R. J. Hastie, and T. J. Martin, "Stabilization of the Ideal m = 1 Internal Kink by Alpha Particles and ICRF Heated Ions", *Nuclear Fusion*, **35**, 12, (1995), pp. 1761–1768.

[MCCLEMENTS97A] K. G. McClements, R. O. Dendy, and A. Gondhalekar, "Modelling Neutral Particle Analyzer Measurements of High Energy Fusion Alpha-Particle Distributions in JET", Report No. JET-R(97)02, JET, Culham, GB, March 1997.

[MCKEE95A] G. McKee, R. Fonck, B. Stratton, R. Bell, R. Budny, C. Bush, B. Grek, D. Johnson, H. Park, A. Ramsey, E. Synakowski, and G. Taylor, "Confined Alpha Distribution Measurements in a Deuterium-Tritium Tokamak Plasma", *Physical Review Letters*, **75**, 4, (1995), pp. 649–652.

[MCLANE88A] Victoria McLane, Charles L. Dunford, and Philip F. Rose, *Neutron Cross Sections*, Vol. 2: Neutron Cross Section Curves, Academic Press, Inc., New York, fourth edition, (1988).

[MCNALLY79A] J. Rand McNally, Jr., K. E. Rothe, and R. D. Sharp, "Fusion Reactivity Graphs and Tables for Charged Particle Reactions", Report No. ORNL/TM-6914, ORNL, Oak Ridge, TN, August 1979.

[MCNEILL51A] K. G. McNeill and G. M. Keyser, "The Relative Probabilities and Absolute Cross Sections of the D–D Reactions", *Physical Review*, **81**, 4, (1951), pp. 602–606.

[MCNEILL55A] K. G. McNeill, "A Note on the Branching Ratio of the D-D Reactions", *Phil. Mag.*, **46**, (1955), pp. 800–804.

[MEDLEY79A] S. S. Medley and H. D. Campbell, "Fusion Gamma Diagnostics: A Concept", Report No. TFTR-TM-11, PPPL, Princeton, NJ, March 1979.

[MEDLEY85A] S. S. Medley, F. E. Cecil, D. Cole, M. A. Conway, and F. J. Wilkinson, III, "Fusion Gamma Diagnostics", *Review of Scientific Instruments*, **56**, 5, (1985), pp. 975–977.

[MEDLEY90A] S. S. Medley, S. D. Scott, A. L. Roquemore, and Cecil. F. E., "Performance of the Fusion Gamma Diagnostic on TFTR", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3226–3228.

[MEDLEY92A] S. S. Medley, A. L. Roquemore, and F. E. Cecil, "Absolute Calibration of Fusion Gamma Ray Detector on TFTR", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4857–4859.

[MEDLEY96A] S. S. Medley, R. V. Budny, D. K. Mansfield, M. H. Redi, A. L. Roquemore, R. K. Fisher, H. H. Duong, J. M. McChesney, P. B. Parks, M. P. Petrov, et al., "Measurements of Confined Alphas and Tritons in the MHD Quiescent Core of TFTR Plasmas Using the Pellet Charge Exchange Diagnostic", *Plasma Physics and Controlled Fusion*, **38**, (1996), pp. 1779–1789.

[MEDVEDEV92A] Sergei Y. Medvedev and Sergei E. Sharapov, "Stabilizing Effect of Trapped Alpha Particles on Low-Frequency MHD Ballooning Modes in ITER Plasmas with Flat $q(\psi)$ Profiles", *Fusion Technology*, **22**, (1992), pp. 470–473.

[MIKHAIL86A] A. B. Mikhailovskii, "Collective Processes in a Tokamak with High-Energy Particles", in W. A. Leontovich, editor, *Reviews of Plasma Physics*, (Consultants Bureau, New York, 1986), Vol. 9, pp. 103–264.

[MIKKELSEN89A] D. R. Mikkelsen, "Approximation for Non-Resonant Beam Target Fusion Reactivities", *Nuclear Fusion*, **29**, 7, (1989), pp. 1113–1115. preprint in PPPL-2566, November 1988.

[MILEY74A] George H. Miley, Harry Towner, and Nenad Ivich, "Fusion Cross Sections and Reactivities", Report No. COO-2218-17, University of Illinois, Urbana, IL, June 1974.

[MILEY84A] George H. Miley and Chan K. Choi, "Effect of Alpha Drift and Instabilities on Tokamak Plasma Edge Conditions", *Journal of Nuclear Materials*, **121**, (1984), pp. 92–99.

[MILEY87A] George H. Miley, "Some Aspects of Alpha Particle Transport and Kinetic Instabilities in Tokamaks and Mirrors", *Physica Scripta*, **T 16**, (1987), pp. 58–71.

[MILEY87B] George H. Miley and H. Kislev, "Radiation-Hardened Wall Detector for Alpha Particles", *Physica Scripta*, **T 16**, (1987), pp. 155–159.

[MILEY90A] George H. Miley, S. C. Hu, and V. Varadarajan, "Epithermal and Thermal Alpha-Particle Transport and Control", *Fusion Technology*, **18**, 4, (1990), pp. 633–640.

[MILLARD85A] W. A. Millard, A. M. Preszler, and S. E. Walker, "Electronics Implementation of a Double Scatter Neutron Time-of-Flight Spectrometer for Fusion Plasma Measurements", in *Proc. of the 11th Symposium on Fusion Engineering, Austin, 1985*, (IEEE, New York, 1986), Vol. I, pp. 565–567.

[MILLER62A] Herman L. Miller, "Summary of Neutron Measurement Methods", Report No. Tech. Memo 35 (Rev. 1), PPL, Princeton, NJ, February 1962.

[MILLER67A] R. G. Miller and R. W. Kavanagh, "Semiconductor Detector as a Fast Neutron Spectrometer", *Nuclear Instruments and Methods*, **48**, (1967), pp. 13–27.

[MILONE61A] C. Milone and R. Ricamo, "Differential Cross-Section for the D(d,n) Reaction", *Il Nuovo Cimento*, **22**, (1961), pp. 116–122.

[MINGAY71A] D. W. Mingay, J. P. F. Sellschop, and P. M. Johnson, "Neutron Induced Reactions in Silicon Semiconductor Detectors", *Nuclear Instruments and Methods*, **94**, (1971), pp. 497–507.

[MIZUNO90A] Nobuo Mizuno, "Thermal Instability of Thermonuclear Plasmas in a Mirror Field", *Fusion Technology*, **18**, 3, (1990), pp. 455–460.

[MOBASHER86A] Mona Mobasher. *Investigation of Neutron Spectrometers as Fusion Plasmas Diagnostic Methods*. PhD thesis, T.H. Aachen, November 1986. Report Nr. Jül-2094, KFA Jülich, FRG.

[MOELLER80A] W. Möller and F. Besenbacher, "A Note on the ^{3}He+D Nuclear-Reaction Cross Section", *Nuclear Instruments and Methods*, **168**, (1980), pp. 111–114.

[MOFFAT52A] J. Moffat, D. Roaf, and J. H. Sanders, "The D–D Cross-Section and Angular Distribution Below 50 keV", *Proc. Roy. Soc. London*, **A 212**, (1952), pp. 220–234.

[MORGAN75A] G. L. Morgan and A. C. England, "Measurement of Neutron Flux from a Tokamak Plasma Device", *Nuclear Instruments and Methods*, **129**, (1975), pp. 1–9.

[MORGAN86A] G. L. Morgan, P. W. Lisowski, S. A. Wender, Ronald E. Brown, Nelson Jarmie, J. F. Wilkerson, and D. M. Drake, "Measurement of the Branching Ratio ^{3}H(d,γ)/^{3}H(d,n) Using Thick Tritium Gas Targets", *Physical Review*, **C33**, 4, (1986), pp. 1224–1227.

[MOSES88A] K. G. Moses, J. L. Sperling, J. C. Dooling, and C. Chu, "Ion Cyclotron Emission Spectroscopy as an α-particle Monitor", *Review of Scientific Instruments*, **59**, 8, (1988), pp. 1605–1607.

[MOSES88B] K. G. Moses, J. L. Sperling, A. J. Glassman, and J. R. Trow, "Spatial Distribution of Fusion Reactions by Gamma-Ray Tomography", *Review of Scientific Instruments*, **59**, 8, (1988), pp. 1712–1714.

[MUEHLING82A] Elke Mühling, "Experimente mit Kernspurdetektoren zur Diagnostik von Protonen und Alpha-Teilchen aus Fusionsplasmen", Report No. IPP-I/210, IPP, Garching, October 1982.

[MUEHLING84A] E. Mühling, U. Schumacher, and H. G. Paretzke, "Thermonuclear Fusion Product Diagnostics by Nuclear Track Detectors", *Nucl. Tracks*, **9**, 2, (1984), pp. 113–117.

[MURPHY85A] T. J. Murphy and J. D. Strachan, "Spatially resolved Measurement of Alpha Particle Emission from PLT Plasmas heated by ICRH", *Nuclear Fusion*, **25**, 3, (1985), pp. 383–386.

[MURPHY86A] T. J. Murphy, W. W. Heidbrink, and J. D. Strachan, "Application of Coincidence Techniques to Fusion Product Measurements", *Review of Scientific Instruments*, **57**, 8, (1986), pp. 1766–1768. preprint in PPPL-2341.

[MURPHY87A] T. J. Murphy, "Calculation of Fusion Product Angular Correlation Coefficients for Fusion Plasmas", *Nuclear Instruments and Methods in Physics Research*, **A267**, (1988), pp. 520–536. preprint in PPPL-2471, July 1987.

[MURPHY88A] T. J. Murphy, Cris W. Barnes, G. L. Schmidt, J. D. Strachan, H.-S. Bosch, A. Cavallo, B. Grek, H. Hendel, D. L. Jassby, D. Johnson, W. Morris, H. Park, G. Taylor, and S. J. Zweben, "Injection of Deuterium Pellets into Post-Neutral-Beam TFTR Plasmas", in *Proc. of the 15th European Conference on Controlled Fusion and Plasma Heating, Dubrovnik, 1988*, (EPS, Petit-Lancy, 1988), Vol. 12B of *Europhysics Conference Abstracts*, pp. 91–94. Part I.

[MURPHY88B] Thomas J. Murphy. *Tokamak Diagnostics Using Nuclear Techniques.* PhD thesis, Princeton University, October 1988.

[MYNICK88A] H. E. Mynick and R. B. White, "Alpha Particle Losses in Tokamaks", in J. Vaclavik, F. Troyon, and E. Sindoni, editors, *Theory of Fusion Plasmas*, (Lausanne, 1988), pp. 385–400.

[NAGATSU87A] M. Nagatsu, W. A. Peebles, and N. C. Luhmann, Jr., "X Mode Collective Scattering on DIII-D – A Prototype Experiment for Determination of α Particle Velocity Distributions", in *Proc. of the 3rd International Symposium on Laser-Aided Plasma Diagnostics, Los Angeles 1987*, (UCLA, 1987), pp. 51–55.

[NAGLE60A] D. E. Nagle, W. E. Quinn, F. L. Ribe, and W. B. Riesenfeld, "Velocity Spectrum of Protons and Tritons from the d–d Reaction in SCYLLA", *Physical Review*, **119**, 3, (1960), pp. 857–862.

[NAGORNYJ90A] V. P. Nagornyj, "Effect of Magnetic Field Distortion on Alpha-Particle Losses in Stellarators", *Fusion Technology*, **18**, 3, (1990), pp. 407–413.

[NAVARRO95A] A. P. Navarro, M. A. Ochando, and J. B. Blázquez, "Fusion Reactor Power and Position Control from Neutron Measurement Analysis", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 878–880.

[NAVARRO95B] A. P. Navaroo, R. Carrasco, I. Labrado, M. A. Ochando, and A. L. Romero. "ITER Plasma Position and Power Determination from Neutron Measurements". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 459–462. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[NAVE92A] M. F. F. Nave, D. Borba, P. Cripwell, M. von Hellerman, W. Kerner, F. Porcelli, G. Sadler, and P. Smeulders, "Energetic Particle Driven Instabilities at JET", in *Proc. of the 19th European Conference on Plasma Physics and Controlled Fusion, Innsbruck, 1992*, (EPS, Petit-Lancy, 1992), Vol. I, pp. 439–442.

[NAZIKIAN97A] R. Nazikian, G. Y. Fu, S. H. Batha, M. G. Bell, R. E. Bell, R. V. Budny, C. E. Bush, Z. Chang, Y. Chen, et al., "Alpha-Particle-Driven Toroidal Alfvén Eigenmodes in the Tokamak Fusion Test Reactor", *Physical Review Letters*, **78**, 15, (1997), pp. 2976–2979.

[NEWMAN84A] David E. Newman and F. E. Cecil, "Observation of Gamma Rays from Fusion Reactions in a Tokamak Plasma", *Nuclear Instruments and Methods in Physics Research*, **A 227**, (1984), pp. 339–341.

[NICOLA82A] D. Di Nicola and E. Pedretti, "Calibration of Neutron Counters by Indium Disk Activation in Pulsed Fusion Machines: Comparison between a Circular Line Plasma and a Toroidal Volume Plasma", in *Diagnostics for Fusion Reactor Conditions*, (Varenna, 1982), Vol. II, pp. 65–87. EUR 8351-II-EN.

[NIESCHMIDT85A] E. B. Nieschmidt, A. C. England, H. W. Hendel, D. L. Hillis, J. A. Isaacson, L. P. Ku, and F. Y. Tsang, "Effects of Neutron Energy Spectrum on the Efficiency Calibration of Epithermal Neutron Detectors", *Review of Scientific Instruments*, **56**, 5, (1985), pp. 1084–1086.

[NIESCHMIDT86A] E. B. Nieschmidt, "Analysis Program and Standardization of the Neutron Activation System at TFTR", *Review of Scientific Instruments*, **57**, 8, (1986), pp. 1757–1759.

[NIESCHMIDT88A] E. B. Nieschmidt, T. Saito, C. W. Barnes, H.-S. Bosch, and T. J. Murphy, "Calibration of the TFTR Neutron Activation System", *Review of Scientific Instruments*, **59**, 8, (1988), pp. 1715–1717.

[NIIKURA88A] Setsuo Niikura, Masayuki Nagami, and Hiroshi Horiike, "Characteristics of Fusion Reaction Rate and Neutron Yield in Deuterium Plasma", *Fusion Engineering and Design*, **6**, (1988), pp. 181–191.

[NIIKURA90A] Setsuo Niikura and Masayuki Nagami, "Improvement of Fusion Reactivity and Fusion Power Multiplication Factor in the Presence of Fast Ions", *Fusion Engineering and Design*, **12**, (1990), pp. 467–480.

[NISHITANI88A] T. Nishitani and J. D. Strachan, "Neutron Spectroscopy on TFTR", Report No. PPPL-2512, PPPL, Princeton, NJ, May 1988.

[NISHITANI89A] Takeo Nishitani, "Monte Carlo Simulation for the Calibration of Neutron Source Strength Measurement of JT-60 Upgrade", Report No. JAERI-M 89-138, JAERI Naka, Japan, October 1989.

[NISHITANI90A] Takeo Nishitani and J. D. Strachan, "Neutron Spectroscopy with a ^{3}He Ionization Chamber on TFTR", *Japanese Journal of Applied Physics*, **29**, 3, (1990), pp. 591–596.

[NISHITANI92A] T. Nishitani, H. Takeuchi, T. Kondoh, T. Itoh, M. Kuriyama, Y. Ikeda, T. Iguchi, and Cris W. Barnes, "Absolute Calibration of the JT-60U Neutron Monitors Using a ^{252}Cf Neutron Source", *Review of Scientific Instruments*, **63**, 11, (1992), pp. 5270–5278.

[NISHITANI92B] T. Nishitani, K. Tobita, K. Tani, A. A. E. Van Blokland, T. Fujita, Y. Kusama, M. Matsuoka, S. Miura, Y. Neyatani, H. Takeuchi, M. Yamagiwa, and the JT-60 Team, "Beam-Injected and Fusion-Produced Particle Studies in JT-60U", in *Plasma Physics and Controlled Nuclear Fusion Research 1992*, (IAEA, Vienna, 1993), Vol. 1, pp. 351–361.

[NISHITANI94A] T. Nishitani, S. Ishida, Y. Kawano, M. Kikuchi, T. Kondoh, and M. Mori, "Empirical Scaling Laws of the Neutron Emission in the JT-60U NBI Experiments", in E. Joffrin, P. Platz, and P. E. Stott, editors, *Europhysics Conference Abstracts (Proc. of the 21th EPS Conference on Controlled Fusion and Plasma Physics, Montpellier, 1994)*, (EPS, Geneva, 1994), Vol. 18B, part I, pp. 94–97.

[NISHITANI94B] T. Nishitani, S. Ishida, M. Kikuchi, M. Azumi, M. Yamagiwa, T. Fujita, Y. Kamada, Y. Kawano, Y. Koide, T. Hatae, M. Mori, and S. Tsuji, "Attainment of High Fusion Reactivity Under High Bootstrap Current Fraction in JT-60U", *Nuclear Fusion*, **34**, 8, (1994), pp. 1069–1079.

[NISHITANI95A] T. Nishitani, M. Hoek, H. Harano, G. A. Wurden, R. E. Chrien, M. Isobe, K. Tobita, and Y. Kusama, "Triton Burnup Study in JT-60U", in B.E. Keen, P.E. Stott, and J. Winter, editors, *Europhysics Conference Abstracts (Proc. of the 22th EPS Conference on Controlled Fusion and Plasma Physics, Bournemouth, 1995)*, (EPS, Geneva, 1995), Vol. 19C, part II, pp. 61–64.

[NISHITANI95B] T. Nishitani, T. Iguchi, E. Takada, J. Kaneko, S. Kasai, and T. Matoba. "Neutron Spectrometers for ITER". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 425–434. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[NISHITANI96A] T. Nishitani, M. Hoek, H. Harano, M. Isobe, K. Tobita, Y. Kusama, G. A. Wurden, and R. E. Chrien, "Triton Burn-up Study in JT-60U", *Plasma Physics and Controlled Fusion*, **38**, (1996), pp. 355–364.

[OBRIEN95A] M. R. O'Brien, M. Cox, C. A. Gardner, and F. S. Zajtsev, "Three Dimensional Fokker-Planck Calculation of α Particle Distributions: A TFTR Simulation", *Nuclear Fusion*, **35**, 12, (1995), pp. 1537–1541.

[ODBLOM95A] A. Ödblom, D. Anderson, L.-G. Eriksson, and M. Lisak, "Modelling of Sawtooth Induced Redistribution of ICRF Heated Minority Ions", *Nuclear Fusion*, **35**, 12, (1995), pp. 1571–1577.

[OGAWA86A] Y. Ogawa and Y. Hamada, "Alpha-Particle Simulation by Using NBI and Fast Wave Of Ion Cyclotron Harmonics", *Comments on Plasma Physics and Controlled Fusion*, **9**, 6, (1986), pp. 271–285.

[OGAWA90A] T. Ogawa, K. Oasa, K. Hoshino, K. Odajima, H. Maeda, and The Microwave Tokamak Experimental Team, "Neutron Diagnostics for MTX", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3181–3183.

[OLSSON91A] M. Olsson, "Energy Resolution Optimization of a Two-Detector Time-of-Flight Spectrometer for D-D Neutrons", *Nuclear Instruments and Methods in Physics Research*, **A 316**, (1992), pp. 395–404. preprint in JET-P(91)65, December 1991.

[OLSSON92A] M. Olsson, P. van Belle, S. Conroy, T. Elevant, and G. Sadler, "Analysis of Neutron Energy Spectra from Neutral Beam Heated Plasmas in the JET Tokamak", *Plasma Physics and Controlled Fusion*, **35**, 2, (1993), pp. 179–191.

[ORSITTO88A] F. Orsitto and P. Buratti, "Analysis of Collective Thomson Scattering for Alpha Particles Diagnostics on Tokamaks", Report No. RT/FUS/88/30, ENEA, Frascati, Italy, December 1988.

[ORSITTO92A] F. Orsitto, "Precision of Ion Temperature and Impurity Fractional Density Measurement Using the JET Collective Thomson Scattering Diagnostic", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4651–4652.

[ORSITTO95A] F. Orsitto. "Review of Possibilities for a Collective Thomson Scattering System on ITER". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 527–530. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[OSAKABE94A] M. Osakabe, S. Itoh, Y. Gotoh, M. Sasao, and J. Fujita, "A Compact Neutron Counter Telescope with Thick Radiator (COTETRA) for Fusion Experiments", *Review of Scientific Instruments*, **65**, 5, (1994), pp. 1636–1643.

[OSAKABE95A] M. Osakabe, J. Fujita, J. Kodaira, M. Sasao, H. Yamanishi, S. Itoh, M. D. Diesso, L. C. Johnson, and A. L. Roquemore, "Development of a Neutron Spectrometer, Counter Telescope with Thick Radiator. for TFTR D-T Experiments", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 920–922.

[OWEN62A] R. B. Owen. "Pulse Shape Discrimination – A Survey ,of Current Techniques", *IEEE Transactions on Nuclear Science*, **NS9**, 3, (1962), pp. 285–293.

[OZEKI95A] T. Ozeki, C.Z. Cheng, and K. Nagashima, "TAE Mode Stability in JT-60SU Steady State Plasmas", *Nuclear Fusion*, **35**, 12, (1995), pp. 1553–1562.

[PAPPAS83A] D. S. Pappas, R. J. Furnstahl, G. P. Kochanski, and F. J. Wysocki, "Studies of Neutron Emission During the Start-Up Phase of the Alcator C Tokamak", *Nuclear Fusion*, **23**, 10, (1983), pp. 1285–1291.

[PARETZKE68A] H. Paretzke, "Messung von Neutronenspektren zur Bestimmung der Geschwindigkeitsverteilung der Deuteronen am linearen Theta-Pinch", Report No. IPP-1/83, IPP, Garching, May 1968.

[PARK94A] H. K. Park, M. G. Bell, W. M. Tang, G. Taylor, M. Yamada, R. V. Budny, D. C. McCune, and R. M. Wieland, "Role of Neutral-Beam Fuelling Profile in Energy Confinement and Neutron Emission on TFTR", *Nuclear Fusion*, **34**, 9, (1994), pp. 1271–1276.

[PARKS88A] P. B. Parks, J. S. Leffler, and R. K. Fisher, "Analysis of Low Z_a Impurity Pellet Ablation for Fusion Diagnostic Studies", *Nuclear Fusion*, **28**, 3, (1988), pp. 477–490.

[PEDRETTI85A] Edmondo Pedretti, Jean Pierre Rager, and Vittorio Merlo, "Improved Calibration of DD Neutron Counters by Activation of Two Indium Disks in the Frascati 1-MJ Plasma Focus", *Review of Scientific Instruments*, **56**, 5, (1985), pp. 1087–1089.

[PERES79A] Asher Peres, "Fusion Cross Sections and Thermonuclear Reaction Rates", *Journal of Applied Physics*, **50**, 9, (1979), pp. 5569–5571.

[PERKINS79A] L. J. Perkins and Malcolm C. Scott, "The Application of Pulse Shape Discrimination in NE 213 to Neutron Spectrometry", *Nuclear Instruments and Methods*, **166**, (1979), pp. 451–464.

[PETRASSO88A] R. D. Petrasso, C. L. Fiore, and Chi-Kang Li, "γ-Ray Diagnostic for the CIT", *Review of Scientific Instruments*, **59**, 8, (1988), pp. 1721–1722. preprint in PFC/JA-88-17.

[PETRIE80A] Thomas W. Petrie and George H. Miley, "Deposition and Thermalization of Fusion Products in a Tokamak Plasma", *IEEE Transactions on Plasma Science*, **PS-8**, 2, (1980), pp. 101–110.

[PETROV92A] M. P. Petrov, V. I. Afanasyev, S. Corti, A. Gondhalekar, A. V. Khudoleev, A. A. Korotkov, and A. C. Maas, "Neutral Particle Analysis in the MeV Range in JET", in W. Freysinger, K. Lackner, R. Schrittwieser, and W. Lindinger, editors, *Europhysics Conference Abstracts (Proc. of the International Conference on Plasma Physics, Innsbruck, 1992)*, (EPS, Geneva, 1992), Vol. 16C, part II, pp. 1031–1034.

[PETROV95A] M. P. Petrov and R. K. Fisher. "Charge-Exchange (C-X) Diagnostics of Fast Confined Alphas: Present Situation and Prospects for ITER". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 495–503. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[PETROV95B] M. P. Petrov, R.V. Budny, H. H. Duong, R. K. Fisher, N. N. Gorelenkov, et al., "Studies of Energetic Confined Alphas using the Pellet Charge Exchange Diagnostic on TFTR", *Nuclear Fusion*, **35**, 12, (1995), pp. 1437–1443.

[PHILLIPS97A] T. W. Phillips, M. D. Cable, D. G. Hicks, C. K. Li, R. D. Petrasso, and F. H. Seguin, "A Study of CR-39 Track Response to Charged Particles from NOVA Implosions", *Review of Scientific Instruments*, **68**, 1, (1997), pp. 596–598.

[PILLON86A] M. Pillon, "High Resolution 14 MeV neutron spectrometer", Report No. RT/FUS/85/20, ENEA Frascati, Italy, April 1986.

[PILLON87A] M. Pillon and A. Vannucci, "Preliminary Measurements of the 14 MeV Neutron Emission from Frascati Tokamak Plasma by Activation Techniques", *Nuclear Instruments and Methods in Physics Research*, **A255**, (1987), pp. 188–189.

[PILLON87B] M. Pillon, "Time Resolved 14 MeV Neutron Detector for Triton Burn-up Studies", Report No. RT/FUS/87/4, ENEA, Frascati, Italy, June 1987.

[PILLON88A] M. Pillon, K. A. Verschuur, O. N. Jarvis, J. Källne, and M. Martone, "Calibration of Neutron Yield Activation Measurements at JET using MCNP and FURNACE Neutron Transport Codes", *Fusion Engineering and Design*, **9**, (1989), pp. 347–352. preprint in JET-P(88)08, February 1988.

[PILLON88B] Mario Pillon, Marcello Martone, Owen N. Jarvis, and J. Källne, "Calibration of Neutron Yield Activation Measurements at Joint European Torus", *Fusion Technology*, **15**, (1989), pp. 1420–1429. preprint in JET-P(88)10.

[PILLON88C] M. Pillon, P. Batistoni, L. Bertalot, M. Martone, and S. Podda, "High-Resolution 14-MeV Neutron Spectrometer", *Review of Scientific Instruments*, **59**, 8, (1988), pp. 1723–1725.

[PINKAU82A] K. Pinkau, "Vorschlag einer Neutronendiagnostik für Fusionsplasmen", *Z. Naturforsch.*, **37 a**, (1982), pp. 741–743.

[PODDA87A] S. Podda, "Time Resolved Neutron Yield Measurements on FT Device", *Nuclear Instruments and Methods in Physics Research*, **A255**, (1987), pp. 183–187.

[PORCELLI91A] Francesco Porcelli, "Fast Particle Stabilisation", *Plasma Physics and Controlled Fusion*, **33**, 13, (1991), pp. 1601–1620.

[POSPIECH75A] G. Pospiech, H. Genz, E. H. Marlinghaus, A. Richter, and G. Schrieder, "Reactions ^{2}H(d,p)^{3}H and ^{2}H(d,n)^{3}He below 150 keV", *Nucl. Phys.*, **A239**, (1975), pp. 125–133.

[POST81A] D. E. Post, D. R. Mikkelsen, R. A. Hulse, L. D. Stewart, and J. C. Weisheit, "Techniques for Measuring the Alpha-Particle Distribution in Magnetically Confined Plasmas", *Journal of Fusion Energy*, **1**, 2, (1981), pp. 129–142.

[POST82A] D. Post, D. Hwang, D. Mikkelsen, and F. Seidl, "Alpha Particle Simulation and Diagnostics Using $_3$He^{++} Minority ICRF Heating", *Journal of Vacuum Science and Technology*, **A 1**, 2, (1983), pp. 206–210. preprint in PPPL-1966, December 1982.

[POST84A] D. E. Post, "Alpha–Particle Heating", in H.S.W. Massey, E.W. McDaniel, and B. Bederson, editors, *Applied Atomic Collisions Physic*, (Academic Press, New York, 1984), Vol. 2, pp. 381–394.

[POST86A] D. Post, S. Zweben, and L. Grisham, "Alpha Particle Diagnostics", in *Basic and Advanced Fusion Plasma Diagnostic Techniques*, (Varenna, 1986), Vol. III, pp. 721–743. EUR 10797 EN.

[PREIS91A] R. Preis, "Neutronen und γ-Ratenmessungen am Tokamak-Esperiment ASDEX", Report No. IPP-III/182, IPP, Garching, FRG, December 1991. Ph.D. thesis at Ruprecht-Karls-Universität Heidelberg, FRG.

[PRESTON54A] G. Preston, P. F. D. Shaw, and S. A. Young, "The Cross-Sections and Angular Distributions of the D–D Reactions between 150 and 450 keV", *Proc. Roy. Soc. (London)*, **A226**, (1954), pp. 206–216.

[PRESZLER85A] A. M. Preszler, W. A. Millard, and S. E. Walker, "Double Scatter Neutron Time-of-Flight Spectrometer for Fusion Plasma Measurements", in *Proc. of the 11th Symposium on Fusion Engineering, Austin, 1985*, (IEEE, New York, 1986), Vol. I, pp. 561–564.

[PROCTOR86A] A. E. Proctor and E. B. Nieschmidt, "Neutron Calorimeter as a Fusion Diagnostic", *Review of Scientific Instruments*, **57**, 8, (1986), pp. 1760–1762.

[PROZESKY93A] V.M. Prozesky, "Re-evaluation of Tolerable Impurity Concentrations in a D,T Fusion Plasma Based on Energy and ^{4}He Particle Exhaust", *Plasma Physics and Controlled Fusion*, **35**, (1993), pp. 1717–1724.

[PUTVINSKI94A] S. Putvinski, H. Berk, P. Barabaschi, B. N. Breizman, D. Borba, J. Candy, C. Z. Cheng, B. Coppi, N. Doinikov, G. Y. Fu, et al., "Alpha Particle Physics for ITER", in *Plasma Physics and Controlled Nuclear Fusion Research 1994*, (IAEA, Vienna, 1995), Vol. 2, pp. 535–541.

[RAMSEY95A] A. T. Ramsey, "D-T Radiation Effects on TFTR Diagnostics", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 871–876.

[RAX93A] J. M. Rax, N. J. Fisch, and L. Laurent, "Fast Particle Resonances in Tokamaks", *Plasma Physics and Controlled Fusion*, **35**, (1993), pp. B129–B140.

[REDI90A] Martha H. Redi and Samuel A. Cohen, "Effects of Particle Transport on Helium Ash Accumulation and Sustained Ignition in the International Thermonuclear Experimental Reactor", *Fusion Technology*, **20**, 1, (1991), pp. 48–57. preprint in PPPL-2641, January 1990.

[REDI90B] M. H. Redi and S. A. Cohen, "Influence of MHD Effects and Edge Conditions on ITER Helium Ash Accumulation and Sustained Ignition", *Journal of Nuclear Materials*, **176 & 177**, (1990), pp. 262–267. preprint in PPPL-2703, 1990, presented at the PSI-conference in Bournemouth/UK, June 1990.

[REDI91A] M. H. Redi, S. A. Cohen, and E. J. Synakowski, "Transport Simulations of Helium Exhaust in ITER Using Recent Data from TFTR, TEXTOR and JT-60", *Nuclear Fusion*, **31**, 9, (1991), pp. 1689–1694. preprint in PPPL-2765, July 1991.

[REDI95A] M. H. Redi, R. V. Budny, D. S. Darrow, A. C. Janos, D. C. McCune, S. S. Medley, J. Schivell, S. D. Scott, R. B. White, M. C. Zarnstorff, S. J. Zweben, and the TFTR group, "TF Ripple Loss of Alpha Particles in TFTR DT Experiments", in B.E. Keen, P.E. Stott, and J. Winter, editors, *Europhysics Conference Abstracts (Proc. of the 22th EPS Conference on Controlled Fusion and Plasma Physics, Bournemouth, 1995)*, (EPS, Geneva, 1995), Vol. 19C, part II, pp. 105–108.

[REDI95B] M. H. Redi, R. V. Budny, D. S. Darrow, H. H. Duong, R. K. Fisher, et al., "Modelling TF Ripple Loss of Alpha Particles in TFTR DT Experiments", *Nuclear Fusion*, **35**, 12, (1995), pp. 1509–1516.

[REITER90A] D. Reiter, G. H. Wolf, and H. Kever, "Burn Condition for Fusion Plasmas, Helium Particle Confinement and Exhaust Efficiency", *Nuclear Fusion*, **30**, 10, (1990), pp. 2141–2155. preprint in Jül-2342, January 1990, presented at the 8th European Tokamak Programme Workshop, Gut Ising/FRG, December 1989.

[REWOLDT88A] G. Rewoldt, "Alpha-Particle Effects on high-n Instabilities in Tokamaks", *Physics of Fluids*, **31**, 12, (1988), pp. 3727–3737.

[REWOLDT91A] G. Rewoldt, "Comparison of High-n Instabilities Including Alpha-Particle Effects in BPX and TFTR", Report No. PPPL-2772, PPPL, Princeton, NJ, July 1991.

[RHEE92A] D. Y. Rhee, D. R. Cohn, J. S. Machuzak, P. Woskov, N. Bretz, R. Budny, P. C. Efthimion, and H. K. Park, "Performance Evaluation of the TFTR Gyrotron CTS Diagnostic for Alpha Particles", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4644–4646.

[RICHARDS87A] R. K. Richards, K. L. Vander Sluis, and D. P. Hutchinson, "Feasibility of Alpha Particle Measurement in a Magnetically Confined Plasma by CO_2 Laser Thomson Scattering", Report No. ORNL/TM-10363, ORNL, Oak Ridge, TN, August 1987.

[RICHARDS88A] R. K. Richards, C. A. Bennett, L. K. Fletcher, H. T. Hunter, and D. P. Hutchinson, "CO_2 Laser Thomson Scattering Diagnostic for Fusion Product Alpha Particle Measurement", *Review of Scientific Instruments*, **59**, 8, (1988), pp. 1556–1558.

[RIGHI94A] E. Righi, D. F. H. Start, and C. Warrick, "Spatial Distribution of γ Emissivity and Fast Ions During (^{3}He)D ICRF Heating Experiments on JET", in E. Joffrin, P. Platz, and P. E. Stott, editors, *Europhysics Conference Abstracts (Proc. of the 21th EPS Conference on Controlled Fusion and Plasma Physics, Montpellier, 1994)*, (EPS, Geneva, 1994), Vol. 18B, part II, pp. 948–951.

[ROBOUCH87A] B. V. Robouch, K. Hübner, R. Bätzner, M. Roos, L. Ingrosso, H. Rapp, H. Wurz, and ASDEX-Team, "VINIA and NEPMC Code Numerical Evaluation of Neutron Scattering for Neutron Diagnostics on ASDEX", in *Proc. of the 14th European Conference on Controlled Fusion and Plasma Physics, Madrid, 1987*, (EPS, Petit-Lancy, 1987), Vol. 11D of *Europhysics Conference Abstracts*, pp. 1298–1301. Part III.

[ROGERWHITE91A] Roger M. White, David A. Resler, and Stephen I. Warshaw. "Evaluation of Charged-Particle Reactions for Fusion Applications". in S. M. Quaim, editor, *Nuclear Data for Science and Technology*, pp. 834–839. Springer, Berlin, 1992.

[ROLFS91A] C. Rolfs. "Data Needs in Astrophysical Studies". in S. M. Quaim, editor, *Nuclear Data for Science and Technology*, pp. 625–628. Springer, Berlin, 1992.

[ROLLET92A] S. Rollet and P. Batistoni, "Neutron Transport Studies for the Ignitor Neutron Diagnostics", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4551–4553.

[ROQUEMORE90A] A. L. Roquemore, R. C. Chouinard, M. Diesso, R. Palladino, J. D. Strachan, and G. D. Tait, "TFTR Multichannel Neutron Collimator", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3163–3165.

[ROQUEMORE92A] A. L. Roquemore and L. C. Johnson, "Control of the Neutron Detector Count Rate by Optical Imaging", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4539–4541.

[ROQUEMORE93A] A. L. Roquemore, D. W. Jassby, L. Johnson, J. D. Strachan, and Cris W. Barnes, "Performance of a 14-MeV Neutron Generator as an In-Situ Calibration Source for TFTR", in *Proceedings of the IEEE/NTSS 15th Symposium on Fusion Energy*, October 1993. (Hyannis).

[ROQUEMORE95A] A. L. Roquemore, L. C. Johnson, and S. von Goeler, "Performance of the Upgraded Multichannel Neutron Collimator", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 916–918.

[ROTH90A] J. Roth, R. Behrisch, W. Möller, and W. Ottenberger, "Fusion Reactions During Low Energy Deuterium Implantation into Titanium", *Nuclear Fusion*, **30**, 3, (1990), pp. 441–446.

[ROUBIN91A] J.-P. Roubin, D. Guilhem, G. Martin, B. Pégourié, and Y. Peysson, "Observation of Strongly Localized Fast Particles Ripple Losses in TORE-SUPRA", in *Proc. of the 18th European Conference on Controlled Fusion and Plasma Physics, Berlin, 1991*, (EPS, Petit-Lancy, 1991), Vol. 15C of *Europhysics Conference Abstracts*, pp. 53–56. Part I.

[RUBY63A] L. Ruby and R. B. Crawford, "Anisotropy Factors for the Determination of Total Neutron Yield from the D(d,n)^{3}He and T(d,n)^{4}He Reactions", *Nuclear Instruments and Methods*, **24**, (1963), pp. 413–417. Lawrence Radiation Laboratory Report UCRL-10752 Suppl. (1963).

[RUBY86A] Lawrence Ruby, J. Warren Stearns, and Robert V. Pyle, "Neutral-Beam Species Determination from Nuclear Reaction Products", *Nuclear Instruments and Methods*, **A248**, (1986), pp. 501–505.

[RUIZ92A] C. L. Ruiz, R. J. Leeper, F. A. Schmidlapp, G. Cooper, and D. J. Malbrough, "Absolute Calibration of a Total Yield Indium Activation Detector for DD and DT Neutrons", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4889–4891.

[RUSKOV95A] E. Ruskov, W. W. Heidbrink, H. H. Duong, A. L. Roquemore, and J. D. Strachan, "Measurement of 14 MeV Neutrons at TFTR with Si-Diode Detectors", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 910–912.

[RUSKOV95B] E. Ruskov, W. W. Heidbrink, R. V. Budny, and D. C. McCune, "Diffusive Modelling of Enhanced Beam Ion Transport in TFTR Plasmas Heated with Deuterium and Tritium Beams", *Nuclear Fusion*, **35**, 12, (1995), pp. 1517–1522.

[RUSKOV96A] E. Ruskov, W. W. Heidbrink, D. McCune, and L. Johnson, "Evidence for Spatially Variable Beam Ion Diffusion in TFTR", *Plasma Physics and Controlled Fusion*, **38**, (1996), pp. 389–403.

[RYUTOV92A] D. Ryutov, "Energetic Ion Population Formed in Close Collision with Fusion Alpha-Particles", *Physica Scripta*, **45**, (1992), pp. 153–158.

[SADLER86A] G. Sadler, P. van Belle, M. Hone, O. N. Jarvis, J. Källne, G. Martin, and V. Merlo, "Fusion Product Measurements on JET", in *Proc. of the 13th European Conference on Controlled Fusion and Plasma Heating, Schliersee, 1986*, (EPS, Petit-Lancy, 1986), Vol. 10C of *Europhysics Conference Abstracts*, pp. 105–108. Part I.

[SADLER87A] G. Sadler, O. N. Jarvis, P. van Belle, N. Hawkes, and B. Syme, "Observation of Fusion Reaction γ-Rays in JET", in *Proc. of the 14th European Conference on Controlled Fusion and Plasma Physics, Madrid, 1987*, (EPS, Petit-Lancy, 1987), Vol. 11D of *Europhysics Conference Abstracts*, pp. 1232–1235. Part III.

[SADLER87B] G. Sadler and P. van Belle, "An Improved Formulation of the D(t,n)^{4}He Reaction Cross-Section", Report No. JET-IR(87)08, JET, Culham, 1987.

[SADLER88A] G. Sadler, O. N. Jarvis, P. van Belle, and J. M. Adams, "Diagnosing RF Driven High Energy Minority Tails with γ-Ray and Neutron Spectroscopy", in *Proc. of the 15th European Conference on Controlled Fusion and Plasma Heating, Dubrovnik, 1988*, (EPS, Petit-Lancy, 1988), Vol. 12B of *Europhysics Conference Abstracts*, pp. 131–134. Part I.

[SADLER89A] Guy J. Sadler, Sean W. Conroy, Owen N. Jarvis, Pieter van Belle, J. Martin Adams, and Malcolm A. Hone, "Investigations of Fast Particle Behavior in Joint European Torus Plasmas Using Nuclear Techniques", *Fusion Technology*, **18**, 4, (1990), pp. 556–572. preprint in JET-P(89)77, November 1989.

[SADLER90A] G. Sadler, J. M. Adams, S. Attenberger, B. Balet, J. G. Cordey, O. N. Jarvis, T. T. C. Jones, P. Kupschus, B. Laundy, P. J. Lomas, et al., "D-D Neutron Production from JET Plasmas", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 1–4. Part I.

[SADLER90B] G. Sadler, O. N. Jarvis, P. van Belle, and M. Pillon, "Use of the ^{28}Si(n,p)^{28}Al reaction for the measurement of 14 MeV Neutrons from Fusion Plasmas", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3175–3177.

[SADLER91A] G. Sadler, J. P. Christiansen, G. A. Cottrell, H. P. L. de Esch, L. Eriksson, R. Giannella, A. Gondhalekar, J. Jacquinot, O. N. Jarvis, T. T. C. Jones, P. J. Lomas, M. J. Loughlin, et al., "^{3}He-D Fusion Yield Studies in JET", in *Proc. of the 18th European Conference on Controlled Fusion and Plasma Physics, Berlin, 1991*, (EPS, Petit-Lancy, 1991), Vol. 15C of *Europhysics Conference Abstracts*, pp. 29–32. Part I.

[SADLER92A] G. Sadler, P. Barabaschi, E. Bertolini, S. Conroy, S. Corti, E. Deksnis, K. J. Dietz, H. P. L. De Esch, A. Gondhalekar, B. Green, et al., "Effects of Enhanced Toroidal Field Ripple on JET Plasmas", *Plasma Physics and Controlled Fusion*, **34**, 13, (1992), pp. 1971–1976. Invited talk EPS '92, Innsbruck.

[SADLER95A] G. J. Sadler and P. van Belle, "The Distribution Function of Fusion Products at Birth", in B.E. Keen, P.E. Stott, and J. Winter, editors, *Europhysics Conference Abstracts (Proc. of the 22th EPS Conference on Controlled Fusion and Plasma Physics, Bournemouth, 1995)*, (EPS, Geneva, 1995), Vol. 19C, part II, pp. 269–272.

[SADLER95B] G. J. Sadler, J. M. Adams, F. E. Cecil, G. Cottrell, A. Gondhalekar, J. Hoekzema, O. N. Jarvis, M. J. Loughlin, F. B. Marcus, P. van Belle, and M. von Hellermann, "Fast Particle Diagnostics at JET, Status and Plans", *Nuclear Fusion*, **35**, 12, (1995), pp. 1609–1618. preprint in JET-P(95)58, November 1995.

[SADOWSKI94A] M. Sadowski, E.M. Al-Mashhadani, A. Szydłowski, T. Czyżewski, L. Głowacka, M. Jaskóła, and M. Wieluński, "Investigation on the Response of CR-39 and PM-355 Track Detectors to Fast Protons in the Energy Range 0.2–4.5 MeV", *Nuclear Instruments and Methods in Physics Research*, **B 86**, (1994), pp. 311–316.

[SADOWSKI95A] M. Sadowski, E.M. Al-Mashhadani, A. Szydłowski, T. Czyżewski, L. Głowacka, M. Jaskóła, C. Rolfs, and M. Wieluński, "Comparison of Responses of CR-39 and PM-355 Track Detectors to Fast Protons, Deuterons and ^{4}He-Ions within Energy Range 0.2-4.5 MeV", *Radiation Measurements*, **25**, 1–4, (1995), pp. 175–176.

[SAGER90A] Glenn T. Sager, George H. Miley, and Keith H. Burrell, "Orbit-Averaged Drift Kinetic Equation for the Study of Alpha-Particle Transport in Tokamaks", *Fusion Technology*, **18**, 3, (1990), pp. 389–396.

[SAILOR94A] W. C. Sailor, Cris W. Barnes, R. E. Chrien, and G. A. Wurden, "Conceptual Design for a Fast Neutron Ionization Chamber for Fusion Reactor Plasma Diagnostics", *Fusion Technology*, **26**, 3, (1994), p. 945. Proceedings of the Eleventh Topical Meeting on the Technology of Fusion Energy.

[SAILOR95A] W. C. Sailor, Cris W. Barnes, R. E. Chrien, and G. A. Wurden, "Conceptual Design for a Scintillating Fiber Neutron Detector for Fusion Reactor Plasma Diagnostics", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 898–900.

[SANTORO87A] R. T. Santoro, J. M. Barnes, R. G. Alsmiller, Jr., Margaret B. Emmet, and James D. Drischler, "Comparisons of Calculated and Measured Spectral Distributions of Neutrons from a 14-MeV Neutron Source inside the Tokamak Fusion Test Reactor", *Fusion Technology*, **11**, (1987), pp. 420–428.

[SASAO86A] M. Sasao, K. N. Sato, Y. Nakamura, and M. Wakatani, "Active Diagnostics of Magnetically Confined Alpha Particles by Pellet Injection", in *Basic and Advanced Fusion Plasma Diagnostic Techniques*, (CEC, Varenna, 1986), Vol. III, pp. 775–780. EUR 10797 EN.

[SASAO86B] M. Sasao and K. N. Sato, "Alpha-Particle Diagnostics with High-Energy Neutral Beams", *Fusion Technology*, **10**, (1986), pp. 236–242.

[SASAO87A] M. Sasao, K. N. Sato, Y. Nakamura, and M. Wakatani, "Active Diagnostics of Magnetically Confined Alpha Particles By Pellet Injection", *Nuclear Fusion*, **27**, 2, (1987), pp. 335–340. preprint in IPPJ-757, January 1986.

[SASAO92A] M. Sasao, J. M. Adams, S. Conroy, O.N. Jarvis, F. B. Marcus, G. Sadler, and P. van Belle, "Determination of the Ion Thermal Diffusivity from Neutron Emission Profiles in Decay", in W. Freysinger, K. Lackner, R. Schrittwieser, and W. Lindinger, editors, *Europhysics Conference Abstracts (Proc. of the International Conference on Plasma Physics, Innsbruck, 1992)*, (EPS, Geneva, 1992), Vol. 16C, part I, pp. 67–70.

[SASAO92B] M. Sasao, J. M. Adams, S. Conroy, O. N. Jarvis, F. B. Marcus, G. Sadler, and P. van Belle, "Determination of the Ion Thermal Diffusivity from Neutron Emissio nProfiles in Decay", *Plasma Physics and Controlled Fusion*, **36**, 1, (1994), pp. 1–12. preprint in JET-P(92)75, 1992.

[SASAO95A] M. Sasao, A. Taniike, and M. Wada. "A Diagnostic He^0 Beam for ITER and LHD". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 505–508. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[SASAO95B] M. Sasao, A. Taniike, I. Nomura, M. Wada, H. Yamaoka, and M. Sato, "Development of Diagnostic Beams for Alpha Particle Measurement on ITER", *Nuclear Fusion*, **35**, 12, (1995), pp. 1619–1624.

[SATO87A] K. N. Sato, "Alpha-Particle Diagnostics in the Reacting Plasma Experiment", *Nuclear Engineering and Design/Fusion*, **4**, (1987), pp. 399–403.

[SATO95A] K. N. Sato, S. Murakami, N. Nakajima, and K. Itoh, "Possibility of Simulation Experiments for Fast Particle Physics in the Large Helical Device (LHD)", *Nuclear Fusion*, **35**, 12, (1995), pp. 1563–1570.

[SCHEFFEL84A] J. Scheffel, "Neutron Spectra from Beam Heated Fusion Plasmas", *Nuclear Instruments and Methods in Physics Research*, **A224**, (1984), pp. 519–531.

[SCHILD88A] P. Schild and G. A. Cottrell, "Ion Cyclotron Emission Measurements on JET", in *Proc. of the 15th European Conference on Controlled Fusion and Plasma Heating, Dubrovnik, 1988*, (EPS, Petit-Lancy, 1988), Vol. 12B of *Europhysics Conference Abstracts*, pp. 1139–1142. Part III.

[SCHILD88B] P. Schild, G. A. Cottrell, and R. O. Dendy, "Sawtooth Oscillations in Ion Cyclotron Emission from JET", *Nuclear Fusion*, **29**, 5, (1989), pp. 834–839. preprint in JET-P(88)62, October 1988.

[SCHIVELL92A] J. Schivell, D. A. Monticello, and S. J. Zweben, "Modeling Fast Alpha-Particle Distributions", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4760–4762.

[SCHLACHTER88A] A. S. Schlachter, J. W. Stearns, and W. S. Cooper, "Neutral-Beam Diagnostic for Fast Confined Alpha Particles in a Burning Plasma: Application on CIT", *Review of Scientific Instruments*, **59**, 8, (1988), pp. 1729–1731. preprint in LBL-24235, October 1987.

[SCHMIDT87A] Reiner Schmidt. *Untersuchung über den Ablauf der Fusionsprozesse im Plasmafokus unter Verwendung von zeitaufgelöster Neutronenspektroskopie.* PhD thesis, Universität Stuttgart, January 1987. Report Nr. IPF-87-4, IPF Stuttgart, FRG.

[SCHULTE72A] R. L. Schulte, M. Cosack, A. W. Obst, and J. L. Weil, "^{2}H+d Reactions from 1.96 to 6.20 MeV", *Nuclear Physics*, **A192**, (1972), pp. 609–624.

[SCHUMACHER87A] Uwe Schumacher, "Considerations for Alpha Particle Diagnostics", *Physica Scripta*, **T 16**, (1987), pp. 143–147.

[SCHUSS79A] J. J. Schuss, S. Fairfax, B. Kusse, R. R. Parker, M. Porkolab, D. Gwinn, I. Hutchinson, E. S. Marmar, D. Overskei, D. Pappas, et al., "Lower-Hybrid-Wave Heating in the Alcator-A Tokamak", *Physical Review Letters*, **43**, (1979), pp. 274–278.

[SCHUSS81A] J. J. Schuss, M. Porkolab, Y. Takase, D. Cope, S. Fairfax, M. Greenwald, D. Gwinn, I. H. Hutchinson, B. Kusse, E. Marmar, et al., "Lower Hybrid Heating in the Alcator A Tokamak", *Nuclear Fusion*, **21**, 4, (1981), pp. 427–452.

[SCOTT90A] S. D. Scott, C. W. Barnes, L. R. Grisham, G. W. Hammett, W. W. Heidbrink, D. W. Johnson, Y. Kusama, M. C. Zarnstorff, S. J. Zweben, et al., "Local Transport Measurements During Auxiliary Heating in TFTR", in *Proc. 13th Intern. Conf. on Plasma Physics and Controlled Nuclear Fusion Research, Washington 1990*, (IAEA, Vienna, 1991), Vol. I, pp. 235–259.

[SHALEV73A] S. Shalev and J. M. Cuttler, "The Energy Distribution of Delayed Fission Neutrons", *Nuclear Science and Engineering*, **51**, (1973), pp. 52–66.

[SHEFER90A] R. E. Shefer, R. L. Watterson, D. Goodman, and R. E. Klinkowstein, "Design of a Submillimeter-Wave Alpha Particle Thomson Scattering Diagnostic for Fusion Plasmas", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3214–3216.

[SIGMAR79A] D. J. Sigmar, "Velocity Space Instabilities of Alpha Particles in Tokamak Reactors", in *Physics of Plasmas Close to Thermonuclear Conditions*, (Varenna, 1979), Vol. I, pp. 271–288. EUR FU BRU/XII/476/80.

[SIGMAR87A] D. J. Sigmar, "Alpha Particle Effects in Burning Tokamak Plasmas: Overview and Specific Examples", *Physica Scripta*, **T 16**, (1987), pp. 6–15.

[SIGMAR88A] D. J. Sigmar, "Summary of the Discussion Meeting on Alpha Particle Theory Problems", Report No. PFC/CP-88-1, MIT, Cambridge, MA, April 1988.

[SIGMAR90A] D. J. Sigmar, "A Synopsis of Collective Alpha Effects and Implications for ITER", Report No. PFC/RR-90-13, MIT/PFC, Cambridge, MA, October 1990.

[SIGMAR91A] D. J. Sigmar and Ya. I. Kolesnichenko, "Alpha Particles in Fusion Research – Report on the Second IAEA Technical Committee Meeting on Alpha Particle Confinement and Heating, Aspenäs, Sweden, 10–14 June 1991", *Nuclear Fusion*, **31**, 9, (1991), pp. 1783–1794.

[SIGMAR92A] D. J. Sigmar, F. Gang, R. Gormley, C. T. Hsu, and D. Spong, "Alpha Physics in Tokamaks", *Plasma Physics and Controlled Fusion*, **34**, 13, (1992), pp. 1845–1857. Invited talk EPS '92, Innsbruck.

[SIGMAR92B] D. J. Sigmar, "Alpha-Particle Physics in BPX", *Fusion Technology*, **21**, (1992), pp. 1113–1122.

[SIGMAR93B] D. J. Sigmar, R. Gormley, and G. Kamelander, "Effects of Anomalous Alpha Particle Diffusion on Fusion Power Coupling into Tokamak Plasma", *Nuclear Fusion*, **33**, 5, (1993), pp. 677–686.

[SIMMET89A] Edmund E. Simmet, "Ionentemperaturmessungen an ASDEX mit verbesserter Fusions-Protonen- und -Tritonen-Diagnostik", Report No. IPP-III/150, IPP, Garching, FRG, August 1989. Masterthesis TU München 1989.

[SLAUGHTER79A] D. R. Slaughter, "A Neutron Diagnostic that Measures Z_{eff} in a Neutral-Beam-Heated Tokamak", Report No. UCRL–82158, LLNL, Livermore, CA, April 1979.

[SLAUGHTER82A] Dennis Slaughter and Robert Strout II, "FLYSPEC: A Simple Method of Unfolding Neutron Energy Spectra Measured with NE 213 and Stilbene Spectrometers", *Nuclear Instruments and Methods*, **198**, (1982), pp. 349–355.

[SLAUGHTER83A] Dennis Slaughter, "Fusion Reactivities for Several Beam and Target Ion Distributions", *Journal of Applied Physics*, **54**, 3, (1983), pp. 1209–1217.

[SLAUGHTER85A] D. R. Slaughter, "Nuclear Techniques for Determining the Spatial and Energy Distribution of Fast-Confined Alpha Particles in Ignited D-T Plasmas", *Review of Scientific Instruments*, **56**, 5, (1985), pp. 1100–1102.

[SLAUGHTER86A] Dennis Slaughter, "Fusion Product Energy Spectra in Beam Heated D-D, D-T and D-^{3}He Plasmas", in *Proc. of the 13th European Conference on Controlled Fusion and Plasma Heating, Schliersee, 1986*, (EPS, Petit-Lancy, 1986), Vol. 10C of *Europhysics Conference Abstracts*, pp. 293–296. Part II.

[SLAUGHTER86B] Dennis Slaughter, "Effect of Ion Speed Distribution on the Spectral Shape of the 2.5-MeV Neutron Line produced by DD Fusion", *Review of Scientific Instruments*, **57**, 8, (1986), pp. 1751–1753.

[SLAUGHTER86C] Dennis Slaughter, "Time Resolved Neutron Spectrum Measurements at the Mirror Fusion Test Facility", *IEEE Transactions on Nuclear Science*, **33**, 1, (1986), pp. 675–678.

[SLAUGHTER89A] D. R. Slaughter, "Fusion-Product Spectral Linewidth in D-D, D-T, and ^{3}He-D Plasmas as an Ion Speed-Distribution Diagnostic", *Review of Scientific Instruments*, **60**, 4, (1989), pp. 552–561.

[SMITH72A] J. R. Smith and S. T. Thornton, "Measurements of ^{3}H(d,$\vec{n}$)^{4}He Neutron Polarizations for E_d = 1.0 to 5.0 MeV", *Nuclear Physics*, **A187**, (1972), pp. 433–445.

[SMITH82A] R. R. Smith and M. D. Strathman, "High-Power Neutral Deuterium Beam Species Measurement by Neutralizer Fusion Product Analysis", *Review of Scientific Instruments*, **53**, 10, (1982), pp. 1513–1516.

[SMITH86A] J. R. Smith, R. K. Fisher, J. S. Leffler, and D. E. Newman, "Time-resolved 14-MeV Neutron Detector for Triton Confinement Studies", *Review of Scientific Instruments*, **57**, 8, (1986), pp. 1780–1782.

[SMITH87A] J. R. Smith, R. K. Fisher, and J. S. Leffler, "Lithium-free Scintillation Glasses for Fast-Neutron Detection", *Review of Scientific Instruments*, **58**, 10, (1987), pp. 1905–1909.

[SMITHER85A] Robert K. Smither, Lawrence R. Greenwood, and Hans Hendel, "New Method for Measuring Ion Temperatures in Hot D-T Plasma", *Review of Scientific Instruments*, **56**, 5, (1985), pp. 1078–1080.

[SPONG87A] D. A. Spong, D. J. Sigmar, K. T. Tsang, J. J. Ramos, D. E. Hastings, and W. A. Cooper, "Effects of Alpha Populations on Tokamak Ballooning Stability", *Physica Scripta*, **T 16**, (1987), pp. 18–26.

[SPONG90A] Donald A. Spong, Jeff A. Holmes, Jean-N. Leboeuf, and Peggy Jo Christenson, "Destabilization of Tokamak Pressure-Gradient Driven Instabilities by Energetic Alpha-Particle Populations", *Fusion Technology*, **18**, 3, (1990), pp. 496–504.

[SPONG92A] D. A. Spong, B. A. Carreras, C. L. Hedrick, N. Dominguez, L. A. Charlton, P. J. Christenson, and J.-N. Leboeuf, "Alpha Destabilization of the TAE Mode using a Reduced Gyrofluid Model with Landau Closure", *Physica Scripta*, **45**, (1992), pp. 159–162.

[SPONG95A] D. A. Spong, C. L. Hedrick, and B. A. Carreras, "Strategies for Modifying Alpha Driven TAE Thresholds Through q Profile and Ion Temperature Control", *Nuclear Fusion*, **35**, 12, (1995), pp. 1687–1696.

[START88A] D. F. H. Start, V. P. Bhatnagar, D. A. Boyd, M. Bures, D. J. Campbell, J. P. Christiansen, P. L. Colestock, J. G. Cordey, et al., "Experimental and Theoretical Studies of Ion Cyclotron Heating on JET", in *Proc. 12th Intern. Conf. on Plasma Physics and Controlled Nuclear Fusion Research, Nice 1988*, (IAEA, Vienna, 1988), Vol. I, pp. 593–603.

[START89A] D. F. H. Start, V. P. Bhatnagar, D. A. Boyd, D. J. Campbell, J. P. Christiansen, J. G. Cordey, W. Core, G. A. Cottrell, L. G. Eriksson, M. P. Evrard, T. Hellsten, J. Jacquinot, O. N. Jarvis, et al., "Confinement of MeV Ions in JET Created by Ion Cyclotron Resonance Heating", Report No. JET-P(89)84, JET, Culham, GB, December 1989. presented at the IAEA Alpha particle workshop, Kiev, USSR, November 1989.

[START90A] D. F. H. Start, V. P. Bhatnagar, M. Bures, D. J. Campbell, J. P. Christiansen, J. G. Cordey, W. G. F. Core, G. A. Cottrell, L. G. Eriksson, T. Hellsten, J. Jacquinot, O. N. Jarvis, et al., "^{3}He-D Fusion Studies and α-Particle Simulations Using MeV Ions Created by ICRH in the JET Tokamak", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 1015–1018. Part III.

[STEINMETZ83A] K. Steinmetz, H. Rapp, K. Hübner, K. Malek, ASDEX-Team, and NI-Team, "Non-Thermonuclear Neutron Production in Hydrogen-Beam-Heated ASDEX Plasmas", in *Proc. of the 11th European Conference on Controlled Fusion and Plasma Physics, Aachen, 1983*, (EPS, Petit-Lancy, 1983), Vol. 1, pp. 51–54.

[STENCEL88A] J. R. Stencel, J. D. Gilbert, O. A. Griesbach, and J. M. Greco, "TFTR Health Physics Tritium Measurements Following D–D Operations", *Fusion Technology*, **14**, (1988), pp. 1047–1053.

[STEWART60A] L. Stewart, J. E. Brolley, Jr., and L. Rosen, "Interaction of 6- to 14-MeV Deuterons with Helium Three and Tritium", *Physical Review*, **119**, 5, (1960), pp. 1649–1653.

[STEWART74A] Leona Stewart and Gerald M. Hale, "The T(D,n)^{4}He and T(t,2n) Cross Sections at Low Energies", Report No. LA-5828-MS, LASL, Los Alamos, NM, December 1974.

[STODIEK71A] W. Stodiek, K. Bol, H. Eubank, S. von Goeler, and D. J. Grove, "Effect of Non-Axisymmetric Confining Fields on Tokamak Discharges", in *Plasma Physics and Controlled Nuclear Fusion Research*, (Vienna, 1971), Vol. I, pp. 465–479.

[STRACHAN77A] J. D. Strachan, E. B. Meservey, W. Stodiek, R. A. Naumann, and F. Girshick, "Photo-Neutron Production in the PLT Tokamak", *Nuclear Fusion*, **17**, 1, (1977), pp. 140–144.

[STRACHAN77B] J. D. Strachan, "The PLT Neutron Flux Measurement System", Report No. PPPL-TM-303, PPPL, April 1977.

[STRACHAN77C] J. D. Strachan and D. L. Jassby, "Observation of Electrodisintegration Neutron Production in the Princeton Large Tokamak", *Trans. Am. Nucl. Soc.*, **26**, (1977), pp. 509–510.

[STRACHAN78A] J. D. Strachan, A. Bhattacharjee, D. L. Jassby, and H. H. Towner, "Neutron Emission Profiles in the Beam-Heated Princeton Large Tokamak", *Physics Letters*, **66 A**, 4, (1978), pp. 295–298.

[STRACHAN78B] J. D. Strachan, P. L. Colestock, H. P. Eubank, D. L. Jassby, and H. H. Towner, "Fusion-Neutron Production in Deuterium-Beam-Heated Plasmas in the Princeton Large Tokamak", in *Proc. of the Joint Varenna–Grenoble Int. Symp. on Heating in Toroidal Plasmas*, (Grenoble, 1978), Vol. 1, pp. 25–29.

[STRACHAN78C] J. D. Strachan and A. Bhattacharjee, "Measurement of the Radial Profile of the PLT Neutron Emission Using Nuclear Emulsions", Report No. PPPL-TM-322, PPPL, September 1978.

[STRACHAN79A] J. D. Strachan, J. Hovey, and M. Murray, "A Note on the Neutron Sawteeth observed on Alcator A", Report No. PPPL-TM-324, PPPL, May 1979.

[STRACHAN79B] J. D. Strachan, P. Colestock, H. Eubank, L. Grisham, J. Hovey, G. Schilling, L. Stewart, W. Stodiek, R. Stooksberry, and K. M. Young, "Measurement of the Neutron Spectra from Beam-Heated PLT Plasmas", *Nature*, **279**, 5714, (1979), pp. 626–628.

[STRACHAN81A] J. D. Strachan, P. L. Colestock, S. L. Davis, D. Eames, P. C. Efthimion, H. P. Eubank, R. J. Goldston, L. R. Grisham, R. J. Hawryluk, J. C. Hosea, J. Hovey, D. L. Jassby, D. W. Johnson, A. A. Mirin, G. Schilling, R. Stooksberry, L. D. Stewart, and H.H. Towner, "Fusion Neutron Production During Deuterium Neutral-Beam Injection into the PLT Tokamak", *Nuclear Fusion*, **21**, 1, (1981), pp. 67–81.

[STRACHAN81B] J. D. Strachan and G. Zankl, "Improvements to the PLT Neutron Calibration", Report No. PPPL-TM-353, PPPL, Princeton, NJ, August 1981.

[STRACHAN82A] J. D. Strachan, "The Application of Fusion Reaction Product Diagnostics in Toroidal Devices", in *Diagnostics for Fusion Reactor Conditions*, (Varenna, 1982), Vol. I, pp. 383–400. EUR 8351-I-EN.

[STRACHAN83A] J. D. Strachan, R. E. Chrien, and W. W. Heidbrink, "Measurement of Plasma Density using Nuclear Techniques", *J. Vac. Sci. Technol. A*, **1**, 2, (1983), pp. 811–817.

[STRACHAN83B] J. D. Strachan, R. E. Chrien, and W. W. Heidbrink, "Fusion Reaction Measurements in the Princeton Large Tokamak", in K. H. Böckhoff, editor, *Nuclear Data for Science and Technology*, (EEC, Brussels, 1983), pp. 313–317.

[STRACHAN83C] J. D. Strachan and G. Zankl, "A Note on the Interpretation of Activation Measurements on the Princeton Large Torus", *Nuclear Instruments and Methods*, **214**, (1983), pp. 551–551.

[STRACHAN85A] J. D. Strachan, A. A. Chan, W. W. Heidbrink, J. Lovberg, T. J. Murphy, E. B. Nieschmidt, and S. J. Zweben, "Confinement of Fusion Products in Tokamaks", in *Basic Physical Processes of Toroidal Fusion Plasmas*, (Varenna, 1985), Vol. II, pp. 699–712. EUR 10418 EN.

[STRACHAN85B] J. D. Strachan, B. Grek, W. Heidbrink, D. Johnson, S. M. Kaye, H. W. Kugel, B. LeBlanc, and K. McGuire, "Studies of Energetic Ion Confinement During Fishbone Events in PDX", *Nuclear Fusion*, **25**, 8, (1985), pp. 863–880. preprint in PPPL-2165, November 1984.

[STRACHAN86A] J. D. Strachan, "Detector Array for the Measurement of the 14.7-MeV Proton Emission from TFTR", *Review of Scientific Instruments*, **57**, 8, (1986), pp. 1771–1773.

[STRACHAN86B] J. D. Strachan, W. W. Heidbrink, H. W. Hendel, J. Lovberg, T. J. Murphy, E. B. Nieschmidt, G. D. Tait, and S. J. Zweben, "Measurements of Fusion Product Emission Profiles in Tokamaks", in *Basic and Advanced Fusion Plasma Diagnostic Techniques*, (Varenna, 1986), Vol. III, pp. 703–719. preprint in PPPL-2394, November 1986.

[STRACHAN86C] J. D. Strachan, H. W. Hendel, J. Lovberg, and E. B. Nieschmidt, "Neutron Ion Temperature Measurement", in *Basic and Advanced Fusion Plasma Diagnostic Techniques*, (Varenna, 1986), Vol. III, pp. 687–702. preprint in PPPL-2395, November 1986.

[STRACHAN87A] J. D. Strachan and A. Chan, "Helium Transport in TFTR", *Nuclear Fusion*, **27**, 6, (1987), pp. 1025–1029.

[STRACHAN88A] J. D. Strachan, T. Nishitani, and Cris W. Barnes, "Neutron Spectroscopy on TFTR", *Review of Scientific Instruments*, **59**, 8, (1988), pp. 1732–1734.

[STRACHAN88B] J. D. Strachan, S. Zweben, C. W. Barnes, H. S. Bosch, H. P. Furth, D. L. Jassby, L. Johnson, H. Hendel, R. Motley, T. Murphy, E. Nieschmidt, , T. Saito, K. M. Young, M. Bell, M. Bitter, A. Cavallo, E. Fredrickson, K. Hill, H. Hsuan, D. Mansfield, H. Park, A. Ramsey, M. Redi, G. Taylor, and TFTR Group, "Fusion Product Measurements on TFTR", in *Proc. 12th Intern. Conf. on Plasma Physics and Controlled Nuclear Fusion Research, Nice 1988*, (IAEA, Vienna, 1988), Vol. I, pp. 257–263.

[STRACHAN88C] J. D. Strachan, "Measurements of the ^{3}He Fusion Product in TFTR", *Nuclear Fusion*, **29**, 2, (1989), pp. 163–171. preprint in PPPL-2544, October 1988.

[STRACHAN90A] J. D. Strachan, A. L. Roquemore, M. Diesso, S. L. Liew, and J. Roberts, "Influence of Neutron Scattering on Measured TFTR Neutron Profiles", in *Proceedings of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 1548–1551. Part IV.

[STRACHAN90B] J. D. Strachan, J. M. Adams, Cris W. Barnes, P. Batistoni, H.-S. Bosch, J. S. Brzosko, A. C. England, C. L. Fiore, R. S. Granetz, H. W. Hendel, F. Hoenen, O. N. Jarvis, D. L. Jassby, L. P. Ku, P. Liu, G. Martin, S. McCauley, R. W. Motley, T. Nishitani, B. V. Robouch, T. Saito, M. Sasao, R. D. Stav, and P. L. Taylor, "Neutron Calibration Techniques for Comparison of Tokamak Results", *Review of Scientific Instruments*, **61**, 11, (1990), pp. 3501–3504.

[STRACHAN92A] J. D. Strachan, M. G. Bell, M. Bitter, R. V. Budny, R. J. Hawryluk, K. W. Hill, H. Hsuan, D. L. Jassby, L. C. Johnson, B. LeBlanc, et al., "Neutron Emission from TFTR Supershots", *Nuclear Fusion*, **33**, 7, (1993), pp. 991–1007.

[STRACHAN94A] J. D. Strachan, H. Adler, P. Alling, C. Ancher, H. Anderson, J.L. Anderson, D. Ashcroft, Cris W. Barnes, G. Barnes, S. Batha, et al., "Fusion Power Production from TFTR Plasmas Fueled with Deuterium and Tritium", *Physical Review Letters*, **72**, 22, (1994), pp. 3526–3529.

[STRACHAN95A] J. D. Strachan, Cris W. Barnes, M. Diesso, D. Jassby, L. Johnson, M. Loughlin, S. McCauley, T. Munsat, and A. L. Roquemore, "Absolute calibration of TFTR Helium proportional counters", *Review of Scientific Instruments*, **66**, 2, (1995), pp. 1247–1251.

[STRACHAN95B] J. D. Strachan, J. Scott McCauley, T. Munsat, C. W. Barnes, R. V. Budny, D. L. Jassby, L.C. Johnson, D. C. McCune, and A. L. Roquemore, "Triton Burnup Profile Measurements", *Nuclear Fusion*, **30**, 9, (1996), pp. 1189–1200.

[STRATTON52A] T. F. Stratton and George D. Freier, "The Angular Distribution of Alpha-Particles from the Reaction of Deuterons with Tritons", *Physical Review*, **88**, 2, (1952), pp. 261–263.

[STRATTON92A] B. C. Stratton, R. J. Fonck, Y. J. Kim, G. McKee, and T. Thorson, "Alpha-CHERS: A spectroscopic Experiment to detect Nonthermal Alpha Particles on TFTR", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 5179–5181.

[STRATTON96A] B. C. Stratton, R. J. Fonck, G. R. McKee, R. V. Budny, Z. Chang, F. Wising, and A. Ödblom, "Observation of Sawtooth Redistribution of Non-Termal Confined Alpha Particles in TFTR DT Discharges", *Nuclear Fusion*, **36**, 11, (1996), pp. 1586–1590.

[STRATTON97A] B. C. Stratton, R. V. Budny, H. H. Duong, D. K. Mansfield, S. S. Medley, M. H. Redi, R. J. Fonck, G. R. McKee, A. Ödblom, F. Wising, et al., "Measurements of Nonthermal Confined Alpha Particles in Tokamak Fusion Test Reactor D-T Plasmas", *Review of Scientific Instruments*, **68**, 1, (1997), pp. 269–274.

[STUBBERFIELD90A] P. M. Stubberfield, B. Balet, and J. G. Cordey, "Extrapolation of the High Performance JET Plasmas to D-T Operation", *Plasma Physics and Controlled Fusion*, **33**, 11, (1991), pp. 1255–1287. preprint in JET-P(90)47, October 1990.

[SWINHOE82A] M. T. Swinhoe, O. N. Jarvis, and P. Dixon, "Some of the Proposed Neutron Diagnostic Systems for JET", in *Diagnostics for Fusion Reactor Conditions*, (Varenna, 1982), Vol. II, pp. 45–51. EUR 8351-II-EN.

[SWINHOE82B] M. T. Swinhoe, P. Dixon, and O. N. Jarvis, "Scientific and Engineering Design of a Neutron Yield Profile Measuring System", Report No. G-2173, A.E.R.E. Harwell, GB, October 1982. Not for Publication.

[SWINHOE82C] M. T. Swinhoe, P. Dixon, and O. N. Jarvis, "Scientific and Engineering Design of a 2.5 MeV Neutron Spectrometer for JET", Report No. G-2441, A.E.R.E. Harwell, GB, November 1982. Not for Publication (Commercial).

[SWINHOE84A] M. T. Swinhoe and O. N. Jarvis, "Calculation and Measurement of ^{235}U and ^{238}U Fission Counter Assembly Detection Efficiency", *Nuclear Instruments and Methods in Physics Research*, **221**, (1984), pp. 460–465.

[SWINHOE85A] M. T. Swinhoe and O. N. Jarvis, "Measurement and Calculation of the Efficiency of Fission Detectors Designed to Monitor the Time Dependence of the Neutron Production of JET", *Review of Scientific Instruments*, **56**, 5, (1985), pp. 1093–1095.

[SYME86A] D. B. Syme, G. B. Huxtable, M. T. Swinhoe, J. M. Adams, J. P. Argyle, N. P. Hawkes, P. Dixon, and A. C. Sherwood, "Neutron Diagnostics for JET", in *Basic and Advanced Fusion Plasma Diagnostic Techniques*, (Varenna, 1986), Vol. III, pp. 747–759. EUR 10797 EN.

[TANI90A] Keiji Tani, Masafumi Azumi, and Tomonori Takizuka, "Passive Burn Control in a Tokamak Plasma Using Toroidal Field Ripple", *Fusion Technology*, **18**, 4, (1990), pp. 625–632.

[TARTARI90A] U. Tartari, S. Galbiati, and M. Lontano, "Collective Scattering Spectra with Anisotropic Distributions of Fast Ions and Alpha Particles", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 1636–1639. Part IV.

[TARTARI95A] U. Tartari. "Collective Thomson Scattering Diagnostic of Confined Alpha Particle Distributions in ITER". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 513–526. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[TAYLOR90A] R. J. Taylor, B. D. Fried, and G. J. Morales, "Burn Threshold for Fusion Plasmas with Helium Accumulation", *Comments on Plasma Physics and Controlled Fusion*, **13**, 5, (1990), pp. 227–237. preprint in UCLA PPG-1290, March 1990.

[TAYLOR96A] G. Taylor, J. D. Strachan, R. V. Budny, and D. R. Ernst, "Fusion Heating in a Deuterium-Tritium Tokamak Plasma", *Physical Review Letters*, **76**, 15, (1996), pp. 2722–2725.

[THEUS66A] R. B. Theus, W. I. McGarry, and L. A. Beach, "Angular Distributions and Cross-Section Ratios for the Reactions ^{2}H(d,n)^{3}He And ^{2}H(d,p)^{3}H Below 500 keV", *Nuclear Physics*, **A80**, (1966), pp. 273–288.

[THOMAS88A] P. R. Thomas and The JET Team, "High Temperature Experiments and Fusion Product Measurements in JET", in *Proc. 12th Intern. Conf. on Plasma Physics and Controlled Nuclear Fusion Research, Nice 1988*, (IAEA, Vienna, 1988), Vol. I, pp. 247–255.

[THOMPSON92A] E. Thompson, D. Stork, H. P. L. de Esch, and the JET team, "The Use of Neutral Beam Heating to Produce High Performance Fusion Plasmas, Including the Injection of Tritium Beams into the Joint European Torus (JET)", *Physics of Fluids B: Plasma Physics*, **5**, (1993), pp. 2468–2480.

[THORNTON69A] S. T. Thornton, "The D(d,n)^{3}He Reaction from E_d = 5 to 10 MeV", *Nuclear Physics*, **A136**, (1969), pp. 25–34.

[TOBITA95A] K. Tobita, Y. Neyatani, Y. Kusama, and H. Takeuchi, "Infrared TV Measurement of Fast Ion Loss on JT-60U", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 594–596.

[TOBITA95B] K. Tobita, K. Tani, Y. Kusama, T. Nishitani, Y. Ikeda, et al., "Ripple Induced Fast Ion Loss and Related Effects in JT-60U", *Nuclear Fusion*, **35**, 12, (1995), pp. 1585–1591.

[TOWNER75A] H. H. Towner and D. L. Jassby, "Energy Spectra of Fusion Neutrons from Plasmas Driven by Reacting Ion Beams", *Trans. ANS*, **22**, (1975), pp. 74–75.

[TOWNER76A] Harry H. Towner, "Energy Spectra of Fusion Neutrons from Beam-Driven PLT and TFTR Plasmas", Report No. TFTR-1, PPPL, Princeton, NJ, February 1976.

[TOWNER76B] H. H. Towner and D. L. Jassby, "D–D Neutron Production in the TFTR", Report No. TM–292, PPPL, Princeton, NJ, August 1976.

[TRANEUS95A] E. Traneus and NPF Collaboration. "Advanced Neutron Camera with Spectrometer Functions". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 407–412. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[TRUSILLO95A] S. V. Trusillo and V. A. Agureev. "Neutron Image System to Measure Neutron Profile of ITER Plasma". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 455–458. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[TUCK54A] James L. Tuck, "Thermonuclear Reaction Rates", Report No. LAMS–1640, LANL, Los Alamos, NM, March 1954.

[TUCK61A] J. L. Tuck, "Thermonuclear Reaction Rates", *Nuclear Fusion*, **1**, 2, (1961), pp. 201–202.

[TURNBULL92A] A. D. Turnbull, M. S. Chu, E. J. Strait, W. W. Heidbrink, H. Duong, L. L. Lao, J. M. Greene, M. S. Chance, and T. S. Taylor, "Global Alfvén Eigenmodes in DIII-D", in W. Freysinger, K. Lackner, R. Schrittwieser, and W. Lindinger, editors, *Europhysics Conference Abstracts (Proc. of the International Conference on Plasma Physics, Innsbruck, 1992)*, (EPS, Geneva, 1992), Vol. 16C, part I, pp. 435–438.

[TURNBULL93A] A. D. Turnbull, E. J. Strait, W. W. Heidbrink, M. S. Chu, H. H. Duong, J. M. Greene, L. L. Lao, T. S. Taylor, and S. J. Thompson, "Global Alfvén Modes: Theory and Experiment", *Physics of Fluids*, **B5**, 7, (1993), pp. 2546–2553.

[TUSZEWSKI88A] M. Tuszewski and J. P. Roubin, "Fast Ion Ripple Losses during Neutral Injection in TFR", *Nuclear Fusion*, **28**, 3, (1988), pp. 499–518.

[TUSZEWSKI92A] M. Tuszewski and S. J. Zweben, "Calibration of Scintillation Detectors for MeV Charged Fusion Products", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4542–4544.

[TUSZEWSKI93A] M. Tuszewski and S. J. Zweben, "Scintillator Studies with MeV Charged Particle Beams", *Review of Scientific Instruments*, **64**, 9, (1993), p. 2459.

[UCHINO87A] K. Uchino, T. Tsukishima, K. Tatebe, T. Tokunaga, T. Okada, K. Muraoka, and M. Akazaki, "Collective Thomson Scattering of a Pulsed CO_2 Laser For Measurements of Ion Temperature and Alpha Particles in Fusion Plasmas", in *Proc. of the 3rd International Symposium on Laser-Aided Plasma Diagnostics, Los Angeles 1987*, (UCLA, 1987), pp. 88–91.

[UCKAN88A] Nermin A. Uckan, John S. Tolliver, Wayne A. Houlberg, and Stanley E. Attenberger, "Influence of Fast Alpha Diffusion and Thermal Alpha Buildup on Tokamak Reactor Performance", *Fusion Technology*, **13**, 3, (1988), pp. 411–422. preprint in ORNL/TM-10612, november 1987.

[ULLRICH96A] Wolfgang Ullrich, "Messung sekundärer Fusionsreaktionen in ASDEX Upgrade", Report No. 1/294, IPP, Garching, Germany, January 1996. Diploma thesis Augsburg University, January 96.

[VAHALA88A] L. Vahala, G. Vahala, and D. Sigmar, "Effect of Scattering Parameters on the Detection of the Alpha Particle Distribution Function for CO_2 Laser or Millimeter Incident Radiation", Report No. PFC/JA-88-4, MIT–PFC, Cambridge, MA, February 1988.

[VALENTINE83A] K. H. Valentine, M. K. Kopp, J. A. Harter, G. C. Guerrant, W. T. Clay, G. W. Allin, and C. E. Fowler, "Ultrahigh-Sensitivity Fission Counter with Transmission Line Electrode Configuration", *IEEE Transactions on Nuclear Science*, **NS-30**, 1, (1983), pp. 795–801.

[VALENTINE85A] K. H. Valentine, M. K. Kopp, G. W. Allin, W. T. Clay, and V. C. Miller, "An Ultrahigh-Sensitivity Threshold Neutron Detector for Plasma Diagnostisc", *IEEE Transactions on Nuclear Science*, **NS-32**, (1985), pp. 384–388.

[VANBELLE86A] P. van Belle and G. Sadler, "The Computation of Fusion Product Spectra from high Temperature Plasmas", in *Basic and Advanced Fusion Plasma Diagnostic Techniques*, (Varenna, 1986), Vol. III, pp. 767–774. EUR 10797 EN.

[VANBELLE90A] P. van Belle, O. N. Jarvis, G. Sadler, S. de Leeuw, and P. D. d'Hondt, "Calibration of the JET Neutron Yield Monitors Using the Delayed Neutron Counting Technique", *Review of Scientific Instruments*, **61**, 10, (1990), pp. 3178–3180.

[VANCALKER91A] Christoph van Calker. *Reaktionsteilchendiagnostik an Fusionsplasmen - Einsatzbereiche und Grenzen bei verschiedenen Plasmaexperimenten.* PhD thesis, Universität Düsseldorf, December 1990.

[VANDAM90A] James W. Van Dam, Guo-Yong Fu, and C. Z. Cheng, "Thermonuclear Instability of Global-Type Shear Alfvén Modes", *Fusion Technology*, **18**, 3, (1990), pp. 461–474.

[VERBINSKI68A] V. V. Verbinski, W. R. Burrus, T. A. Love, W. Zobel, and N. W. Hill, "Calibration of an Organic Scintillator for Neutron Spectrometry", *Nuclear Instruments and Methods*, **65**, (1968), pp. 8–25.

[VERSCHUUR86A] K. A. Verschuur, "Neutron Transport Calculations in Support of Neutron Diagnostics at JET", Report No. ECN-86-097, ECN, Petten, Netherlands, June 1986.

[VLAD95A] G. Vlad, F. Zonca, and F. Romanelli, "High-n Stability of Alpha Particle Driven Alfvén Eigenmodes", *Nuclear Fusion*, **35**, 12, (1995), pp. 1651–1659.

[VONGOELER96A] S. von Goeler, A. L. Roquemore, L. C. Johnson, M. Bitter, M. Diesso, E. Fredrickson, D. Long, and J. D. Strachan, "Fast Detection of 14 MeV Neutrons on the TFTR Neutron Collimator", *Review of Scientific Instruments*, **67**, 2, (1996), pp. 473–484.

[WAGNER90A] M. Wagner, H. Vonach, A. Pavlik, B. Strohmaier, S. Tagesen, and J. Martinez-Rico, *Evaluation of cross sections for 14 important neutron-dosimetry reactions*, Vol. 13-5 of *Physics Data*, Fachinformationszentrum Karlsruhe, (1990). ISSN 0344-8401.

[WALKER86A] S. E. Walker, A. M. Preszler, and W. A. Millard, "Double Scatter Neutron Time-of-Flight Spectrometer as a Plasma Diagnostic", *Review of Scientific Instruments*, **57**, 8, (1986), pp. 1740–1742.

[WANDEL59A] C. F. Wandel, T. Hesselberg Jensen, and O. Kofoed-Hansen, "A Compilation of Some Rates and Cross Sections of Interest in Controlled Thermonuclear Research", *Nuclear Instruments and Methods*, **4**, (1959), pp. 249–260.

[WANG85A] C. L. Wang, R. Kalibjian, M. S. Singh, J. D. Wiedwald, D. E. Campbell, E. M. Campbell, M. D. Cable, W. R. Graves, S. M. Lane, R. A. Lerche, R. H. Price, D. G. Stearns, G. A. Mourou, and S. G. Prussin, "Approaches to ultrafast neutron detectors", *Review of Scientific Instruments*, **56**, 5, (1985), pp. 1096–1097.

[WARD62A] B. A. Ward, "On the Interpretation of Neutron Spectra to Determine the Centre-of-Mass Motion of Fusing Deuterons", Report No. CLM–R 20, Culham Lab., February 1962.

[WASSENHOVE90A] G. Van Wassenhove, Th. Delvigne, F. Hoenen, A. M. Messiaen, J. Ongena, R. R. Weynants, and J. W. Yang, "Study of the Neutron Yield Behaviour in Combined ICRH and NBI Heated Discharges on TEXTOR", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 1040–1043. Part III.

[WASSENHOVE97A] G. Van Wassenhove, S. Helbing, G. Bonheure, F. Gadelmeier, R. Jaspers, A. Kramer-Flecken, A. Messiaen, J. Ongena, G. Telesca, B. Unterberg, M. Vervier, and B. Wolle, "Dilution and Electron Temperature Determination from Neutron Rate Measurements During RI Mode Discharges in TEXTOR", in M. Schittenhelm, R. Bartiromo, and F. Wagner, editors, *Europhysics Conference Abstracts (Proc. of the 24th EPS Conference on Controlled Fusion and Plasma Physics, Berchtesgaden, 1997)*, (EPS, Petit-Lancy, 1997), Vol. 21A, part IV, pp. 1697–1700.

[WEILAND87A] J. Weiland, M. Lisak, and H. Wilhelmsson, "Excitation of Global Alfvén Modes by Trapped Alpha Particles", *Physica Scripta*, **T 16**, (1987), pp. 53–57.

[WELCH84A] D. R. Welch, D. B. Harris, A. H. Bennish, and G. H. Miley, "Proton Spectra Diagnostics for Shock-Compression Studies", *Applied Physics Letters*, **45**, 12, (1984), pp. 1284–1286.

[WENZEL52A] W. A. Wenzel and Ward Whaling, "Cross Section and Angular Distribution of the D(d,p)T Reaction", *Physical Review*, **88**, 5, (1952), pp. 1149–1154.

[WENZEL92A] K. W. Wenzel, R. D. Petrasso, D. H. Lo, C. K. Li, J. W. Coleman, J. R. Lierzer, E. Hsieh, and T. Bernat, "MIT Fusion γ-Ray Diagnostic Development", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4840–4842.

[WHITE89A] R. B. White and H. E. Mynick, "Alpha Particle Loss in Tokamaks", in *Proc. of the 16th European Conference on Controlled Fusion and Plasma Physics, Venice, 1989*, (EPS, Petit-Lancy, 1989), Vol. 13B of *Europhysics Conference Abstracts*, pp. 331–333. Part I.

[WHITE89B] R. B. White and H. E. Mynick, "Alpha Particle Confinement in Tokamaks", *Physics of Fluids B: Plasma Physics*, **1**, 5, (1989), pp. 980–982. preprint in PPPL-2563, November 1988.

[WHITE90A] R. B. White, F. Romanelli, and M. N. Bussac, "Influence of an Energetic Ion Population on Tokamak Plasma Stability", *Physics of Fluids B: Plasma Physics*, **2**, 4, (1990), pp. 745–753. preprint in RT/FUS/88/22, December 1988.

[WHITE95A] R.B. White, Y. Wu, Y. Chen, E. D. Fredrickson, D. S. Darrow, et al., "Non-Linear Analysis of the Toroidicity Induced Alfvén Eigenmode", *Nuclear Fusion*, **35**, 12, (1995), pp. 1707–1712.

[WILHELMS87A] H. Wilhelmsson, "Evolution of Burning Fusion Plasma Density and Alpha Particle Production in Approaching Ignition", *Physica Scripta*, **T 16**, (1987), pp. 176–178.

[WILKINSON85A] F. J. Wilkinson III and F. E. Cecil, "^{2}H(d,γ)^{4}He Reaction at Low Energies", *Physical Review C*, **31**, 6, (1985), pp. 2036–2040.

[WINYARD71A] R. A. Winyard, J. E. Lutkin, and G. W. McBeth, "Pulse Shape Discrimination in Inorganic and Organic Scintillators, I", *Nuclear Instruments and Methods*, **95**, (1971), pp. 141–153.

[WINYARD72A] R. A. Winyard and G. W. McBeth, "Pulse Shape Discrimination in Inorganic and Organic Scintillators, II", *Nuclear Instruments and Methods*, **98**, (1972), pp. 525–533.

[WISING92A] F. Wising, D. Anderson, and M. Lisak, "Modelling of Fast-Ion Redistribution due to Sawteeth in Neutral Beam Heated Plasmas", *Plasma Physics and Controlled Fusion*, **34**, (1992), pp. 853–862.

[WISING92B] Fredrik Wising. *Sawtooth oscillations in tokamak plasmas.* PhD thesis, Chalmers University of Technology, 1992.

[WOLLE90A] B. Wolle, B. Bomba, and K. Hübner, "Ion Temperature Determination from Neutron Rate Measurements During Deuterium Injection", in *Proc. of the 17th European Conference on Controlled Fusion and Plasma Heating, Amsterdam, 1990*, (EPS, Petit-Lancy, 1990), Vol. 14B of *Europhysics Conference Abstracts*, pp. 1516–1519. Part IV.

[WOLLE91A] B. Wolle, L.-G. Eriksson, K. Hübner, P. D. Morgan, H. W. Morsi, G. Sadler, and M. G. von Hellermann, "Neutron Rate Interpretation for Neutral-Beam-Heated Tokamaks", *Plasma Physics and Controlled Fusion*, **33**, 14, (1991), pp. 1863–1870. preprint in JET-P(91)15, April 1991.

[WOLLE92A] B. Wolle, L.-G. Eriksson, and L. N. Tsintsadze, "A Time-Dependent Fokker-Planck Code for Neutron Rate Interpretations", Report No. JET-R(92)02, JET, Culham, GB, February 1992.

[WOLLE92B] B. Wolle, L.-G. Eriksson, U. Gerstel, and G. Sadler, "Time-dependent Neutron-Rate Interpretation for Neutral-Beam-Heated Tokamak Plasmas", *Plasma Physics and Controlled Fusion*, **36**, (1994), pp. 1051–1073. preprint in JET-P(92)30, 1992.

[WOLLE92C] B. Wolle, L.-G. Eriksson, K. Hübner, P. D. Morgan, G. Sadler, L. N. Tsintsadze, and M. G. von Hellermann, "Time-dependent Neutron Rate Interpretation for Deuterium Injection into Deuterium Plasmas", in W. Freysinger, K. Lackner, R. Schrittwieser, and W. Lindinger, editors, *Europhysics Conference Abstracts (Proc. of the International Conference on Plasma Physics, Innsbruck, 1992)*, (EPS, Geneva, 1992), Vol. 16C, part II, pp. 1485–1488.

[WOLLE94A] B. Wolle, Y. Feng, S. Koch, K. Hübner, R. Bätzner, and B. V. Robouch, "Measurement of Neutron Emission Profiles and Neutron Spectra by Means of Nuclear Emulsions", in E. Joffrin, P. Platz, and P. E. Stott, editors, *Europhysics Conference Abstracts (Proc. of the 21th EPS Conference on Controlled Fusion and Plasma Physics, Montpellier, 1994)*, (EPS, Geneva, 1994), Vol. 18B, part I, pp. 282–285.

[WOLLE95A] B. Wolle, Z. Jauch, and L.-G. Eriksson, "The Influence of Trapping Effects on the Fusion Reactivity in NBI Heated Tokamak Plasmas", Report No. JET-P(95)71, JET, Culham, GB, December 1995. submitted to PPCF.

[WOLLE95B] B. Wolle, U. Gerstel, K. Hübner, L.-G. Eriksson, G. Sadler, and P. van Belle, "Simulation and Analysis of Time-dependent Neutron Energy Spectra", *Plasma Physics and Controlled Fusion*, **37**, (1995), pp. 1187–1196. preprint in JET-P(95)35, August 1995.

[WOLLE96A] B. Wolle, "The Influence of Sawtooth Oscillations on the Neutron Production in NBI Heated Tokamak Plasmas", *Plasma Physics and Controlled Fusion*, **38**, (1996), pp. 889–895.

[WOLSKI92A] Janusz Wolski and Jerzy Wyzgal, "Proposal for a Neutron Spectrometry System for the International Thermonuclear Experimental Reactor", *Fusion Technology*, **21**, (1992), pp. 142–146.

[WONG85A] K. L. Wong, M. Bitter, G. W. Hammett, W. Heidbrink, H. Hendel, R. Kaita, S. Scott, J. D. Strachan, G. Tait, et al., "Acceleration of Beam Ions During Major-Radius Compression in the Tokamak Fusion Test Reactor", *Physical Review Letters*, **55**, 23, (1985), pp. 2587–2590.

[WONG85B] King-Lap Wong, "An Alpha Particle Diagnostic Based on Damping of Lower Hybrid Waves", *Review of Scientific Instruments*, **56**, 5, (1985), pp. 1073–1074.

[WONG89A] K. L. Wong, "An Alpha Particle Diagnostic Based on Measurements of Lower Hybrid Wave Fluctuations", Report No. PPPL-2632, PPPL, Princeton, NJ, July 1989.

[WONG91A] K. L. Wong, R. J. Fonck, S. F. Paul, D. R. Roberts, E. D. Fredrickson, R. Nazikian, H. K. Park, M. Bell, N. L. Bretz, R. Budny, et al., "Excitation of Toroidal Alfvén Eigenmodes in TFTR", *Physical Review Letters*, **66**, 14, (1991), pp. 1874–1877. preprint in PPPL-2740, 1991.

[WONG91B] K. L. Wong, "An Alpha Particle Diagnostic Based on Measurements of Lower-Hybrid Wave Fluctuations", *Physics of Fluids B: Plasma Physics*, **3**, 6, (1991), pp. 1501–1503.

[WONG92A] K. L. Wong, R. Durst, R. J. Fonck, S. F. Paul, D. R. Roberts, E. D. Fredrickson, R. Nazikian, H. K. Park, M. Bell, N. L. Bretz, et al., "Investigation of Global Alfvén Instabilities in the Tokamak Fusion Test Reactor", *Physics of Fluids B: Plasma Physics*, **4**, 7, (1992), pp. 2122–2126.

[WONG95A] H. V. Wong, H. L. Berk, and B. N. Breizman, "Orbit Width Scaling of TAE Instability Growth Rate", *Nuclear Fusion*, **35**, 12, (1995), pp. 1721–1732.

[WONG96A] K. L. Wong, G. L. Schmidt, S. H. Batha, R. Bell, Z. Chang, L. Chen, D. S. Darrow, H. H. Duong, G. Y. Fu, G. W. Hammett, F. Levinton, R. Majeski, E. Mazzucato, R. Nazikian, D. K. Owens, M. Petrov, J. H. Rogers, G. Schilling, and J. R. Wilson, "First Evidence of Collective Alpha Particle Effect on Toroidal Alfvén Eigenmodes in the TFTR D-T Experiment", *Physical Review Letters*, **76**, 13, (1996), pp. 2286–2289.

[WOSKOV87A] P. P. Woskov, "Suitability of Millimeter-Wave Scattering for Diagnostics of Fusion Alpha-Particles", Report No. PFC/RR-87-16, MIT, Cambridge, MA, September 1987.

[WOSKOV87B] P. P. Woskov, D. R. Cohn, J. S. Machuzak, and R. C. Myer, "Fusion Alpha Particle Diagnostics with Gyrotrons", in *Proc. of the 12th Symposium on Fusion Engineering*, (Monterey, 1987), Vol. II, pp. 1544–1547.

[WOSKOV87C] P. P. Woskoboinikov, D. R. Cohn, J. S. Machuzak, R. C. Myer, and R. Y. Rhee, "Gyrotron Scattering Alpha Particle Diagnostics", in *Proc. of the 3rd International Symposium on Laser-Aided Plasma Diagnostics, Los Angeles 1987*, (UCLA, 1987), pp. 47–50.

[WOSKOV88A] P. P. Woskov, J. S. Machuzak, R. C. Myer, D. R. Cohn, N. L. Bretz, P. C. Efthimion, and J. L. Doane, "Gyrotron Collective Thomson Scattering Diagnostic for Confined Alpha Particles in TFTR", *Review of Scientific Instruments*, **59**, 8, (1988), pp. 1565–1567.

[WURDEN94A] G. A. Wurden, M. Sasao, and D. K. Mansfield, "Detection of Alpha Particles via Observation of He II Line Emission in the Lithium Pellet Cloud During DT Operation in TFTR", in E. Joffrin, P. Platz, and P. E. Stott, editors, *Europhysics Conference Abstracts (Proc. of the 21th EPS Conference on Controlled Fusion and Plasma Physics, Montpellier, 1994)*, (EPS, Geneva, 1994), Vol. 18B, part I, pp. 294–297.

[WURDEN95A] G. A. Wurden, R. E. Chrien, Cris W. Barnes, W. C. Sailor, A. L. Roquemore, M. J. Lavelle, P. M. O'Gara, and R. J. Jordan, "A Scintillating-Fiber 14-MeV Neutron Detector on TFTR During DT Operation", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 901–903.

[YAMAGIWA88A] M. Yamagiwa and T. Takizuka, "ICRF Wave Absorption By Alpha Particles", *Nuclear Fusion*, **28**, 12, (1988), pp. 2241–2248.

[YAMAGIWA91A] M. Yamagiwa and H. Kimura, "D-^{3}He Fusion Yield With Higher Harmonic ICRF Heating of ^{3}He Beams", *Nuclear Fusion*, **31**, 8, (1991), pp. 1519–1526.

[YARNELL53A] J. L. Yarnell, R. H. Lovberg, and W. R. Stratton, "Angular Distribution of the Reaction He^3(d,p)He^4 between 240 keV and 3.56 MeV", *Physical Review*, **90**, 2, (1953), pp. 292–297.

[YOUNG75A] Frank C. Young, "Neutron Diagnostics for Pulsed Plasma Sources", *IEEE Trans. Nucl. Sci.*, **NS-22**, (1975), pp. 718–723.

[YOUNG92A] Kenneth M. Young and David W. Johnson, "The Status of Alpha-Particle Diagnostics", *Plasma Physics and Controlled Fusion*, **34**, 13, (1992), pp. 2001–2006. Invited talk EPS '92, Innsbruck.

[ZAJTSEV86A] F. S. Zajtsev, A. P. Smirnov, and P. N. Yushmanov, "Integral Stochastic Alpha Particle Losses in a Tokamak Reactor", *Nuclear Fusion*, **26**, 10, (1986), pp. 1311–1317.

[ZANKL81A] G. Zankl, J. D. Strachan, R. Lewis, W. Pettus, and J. Schmotzer, "Neutron Flux Measurements around the Princeton Large Tokamak", *Nuclear Instruments and Methods*, **185**, (1981), pp. 321–329.

[ZARNSTORFF88B] M. C. Zarnstorff, V. Arunasalam, C. W. Barnes, M. G. Bell, M. Bitter, H.-S. Bosch, N. L. Bretz, R. Budny, C. E. Bush, A. Cavallo, et al., "Transport in TFTR supershots", in *Plasma Physics and Controlled Nuclear Fusion Research 1988*, (IAEA, Vienna, 1989), Vol. 1, pp. 183–191.

[ZAVERYAEV77A] B. S. Zaveryaev and S. Yu. Luk'yanov, "Neutron Emission in Big Tokamaks", *Sovjet Physics JETP*, **46**, 5, (1977), pp. 937–942. Translation of Zh. Eksp. Teor. Fiz. **73**, 1783–1793 (November 1977).

[ZAVERYAEV90A] V. S. Zaveryaev, V. D. Maisyukov, S. V. Popovichev, E. V. Aleksandrov, S. N. Gamayunov, V. G. Gulyi, V. E. Zhogolev, V. Kh. Likhtenstein, I. E. Mirskii, S. V. Putvinskii, and A. P. Shevchenko, "Plasma Diagnostics for the T-10 Tokamak Based on Charged (d,d) Fusion Products: Preliminary Results and Problems", *Soviet Journal of Plasma Phys.*, **16**, 11, (1990), pp. 754–760. originally published in Fiz. Plazmy (16), p. 1301–1312 (Nov. 90).

[ZAVERYAEV95A] V. S. Zaveryaev, V. D. Maisyukov, A. V. Khramenkov, S. V. Popovichev, A. P. Shevchenko, and S. V. Trusillo, "Diagnostics Proposal for T-15 Fusion Research by Means of Charged Products and Neutrons", *Nuclear Fusion*, **35**, 12, (1995), pp. 1631–1637.

[ZONCA93A] F. Zonca, "Alfvénic Instabilities Driven by Energetic Alpha Particles", *Plasma Physics and Controlled Fusion*, **35**, (1993), pp. B307–B317.

[ZWEBEN86A] S. J. Zweben, "Approaches to the Diagnostics of Alpha Particles in Tokamaks", *Review of Scientific Instruments*, **57**, 8, (1986), pp. 1723–1728.

[ZWEBEN86B] S. J. Zweben, "Scintillation Detector for Escaping Alphas and Tritons in TFTR", *Review of Scientific Instruments*, **57**, 8, (1986), pp. 1774–1776.

[ZWEBEN87A] S. J. Zweben, "Prospects for Alpha Particle Studies on TFTR", *Physica Scripta*, **T 16**, (1987), pp. 119–126. preprint in PPPL-2443, May 1987.

[ZWEBEN88A] S. J. Zweben, H. P. Furth, D. R. Mikkelsen, M. H. Redi, and J. D. Strachan, "Alpha Storage Regime in High Temperature Sub-Ignited D–T Tokamaks", *Nuclear Fusion*, **28**, 12, (1988), pp. 2230–2241. preprint in PPPL-2535, July 1988.

[ZWEBEN89A] S. J. Zweben, J. D. Strachan, R. Boivin, C. W. Barnes, A. Cavallo, E. D. Fredrickson, K. McGuire, H. E. Mynick, and R. B. White, "Escaping 1 MeV Tritons in TFTR", in *Proc. of the 16th European Conference on Controlled Fusion and Plasma Physics, Venice, 1989*, (EPS, Petit-Lancy, 1989), Vol. 13B of *Europhysics Conference Abstracts*, pp. 39–42. Part I.

[ZWEBEN89B] S. J. Zweben, "Four-Channel ZnS Scintillator Measurements of Escaping Tritons in TFTR", *Review of Scientific Instruments*, **60**, 4, (1989), pp. 576–587. preprint in PPPL-2559, October 1988.

[ZWEBEN89C] S. J. Zweben, "Pitch Angle Resolved Measurements of Escaping Charged Fusion Products in TFTR", *Nuclear Fusion*, **29**, 5, (1989), pp. 825–833. preprint in PPPL-2582, January 1989.

[ZWEBEN90A] S. J. Zweben, R. L. Boivin, R. E. Duvall, E. D. Fredrickson, R. J. Goldston, H. E. Mynick, J. D. Strachan, and R. B. White, "MeV Ion Confinement in the TFTR Tokamak", *Physics of Fluids B: Plasma Physics*, **2**, 6, (1990), pp. 1411–1414. invited talk at the 1989 APS meeting in Anaheim.

[ZWEBEN90B] S. J. Zweben, R. L. Boivin, M. Diesso, S. E. Hayes, H. W. Hendel, H. Park, and J. D. Strachan, "Loss of Alpha-Like MeV Fusion Products from TFTR", *Nuclear Fusion*, **30**, 8, (1990), pp. 1551–1574. preprint in PPPL-2686, March 1990.

[ZWEBEN90C] S. J. Zweben, R. Boivin, S. L. Liew, D. K. Owens, J. D. Strachan, and M. Ulrickson, "Constraints on Escaping Alpha Particle Detectors for Ignited Tokamaks", *Review of Scientific Instruments*, **61**, 11, (1990), pp. 3505–3508.

[ZWEBEN90D] Stewart J. Zweben, J. D. Strachan, and Kenneth M. Young, "Alpha-Particle Experiments on the Tokamak Fusion Test Reactor and the Compact Ignition Tokamak", *Fusion Technology*, **18**, 4, (1990), pp. 573–577.

[ZWEBEN91A] S. J. Zweben, R. L. Boivin, C.-S. Chang, G. W. Hammett, and H. E. Mynick, "Radial Diffusion Coefficient for Counter-Passing MeV Ions in the TFTR Tokamak", *Nuclear Fusion*, **31**, 12, (1991), pp. 2219–2245. preprint in PPPL-2770, July 1991.

[ZWEBEN91B] S. J. Zweben, R. Boivin, C. S. Chang, G. Hammett, and H. E. Mynick, "Slow Diffusion of Passing MeV Ions in TFTR", Report No. PPPL-2771, PPPL, Princeton, NJ, July 1991. Condensed Version of PPPL-2770.

[ZWEBEN92A] S. J. Zweben, G. W. Hammett, R. L. Boivin, C. K. Phillips, and J. R. Wilson, "Loss of MeV ions during ^{3}He Minority Ion Cyclotron Resonance Heating in TFTR", *Nuclear Fusion*, **32**, 10, (1992), pp. 1823–1833. preprint in PPPL-2812.

[ZWEBEN92B] S. J. Zweben, R. Boivin, D. S. Darrow, E. D. Fredrickson, H. E. Mynick, R. B. White, H. Biglari, N. L. Bretz, R. V. Budny, C. E. Bush, et al., "Charged Fusion Product and Fast Ion Loss in TFTR", in *Plasma Physics and Controlled Nuclear Fusion Research 1992*, (IAEA, Vienna, 1993), Vol. 1, pp. 363–381.

[ZWEBEN92C] S. J. Zweben, R. Boivin, D. Darrow, D. Loesser, S. S. Medley, M. McSmith, D. K. Owens, and M. Ulrickson, "Operating Experiences with the TFTR Escaping Alpha Detectors", *Review of Scientific Instruments*, **63**, 10, (1992), pp. 4565–4567.

[ZWEBEN93A] S. J. Zweben, D. S. Darrow, E. D. Fredrickson, and H. E. Mynick, "Anomalous Delayed Loss of Trapped D-D Fusion Products in TFTR", *Nuclear Fusion*, **33**, 5, (1993), pp. 705–724.

[ZWEBEN94A] S. J. Zweben, D. S. Darrow, H. W. Herrmann, R. V. Budny, C. S. Chang, C. Z. Cheng, G. Y. Fu, D. L. Jassby, M. Redi, J. Schivell, et al., "Measurements of Escaping Alphas in the TFTR DT Experiments", in E. Joffrin, P. Platz, and P. E. Stott, editors, *Europhysics Conference Abstracts (Proc. of the 21th EPS Conference on Controlled Fusion and Plasma Physics, Montpellier, 1994)*, (EPS, Geneva, 1994), Vol. 18B, part I, pp. 290–293.

[ZWEBEN94B] S. J. Zweben, C. E. Bush, C. S. Chang, Z. Chang, D. S. Darrow, E. D. Fredrickson, H. W. Herrmann, H. E. Mynick, J. Schivell, M. Bell, et al., "Anomalous Losses of Deuterium-Deuterium Fusion Products in the Tokamak Fusion Test Reactor", *Plasma Physics*, **1**, 5, (1994), pp. 1469–1477.

[ZWEBEN95A] S. J. Zweben, D. W. Johnson, K. W. Hill, L. P. Ku, G. LeMunyan, D. Loesser, D. K. Owens, S. S. Medley, D. Mueller, J. Timberlake, W. R. Wampler, and B. L. Doyle, "Methods for Measuring Surface Tritium Inside TFTR Using Beta Decay", *Review of Scientific Instruments*, **66**, 1, (1995), pp. 357–359.

[ZWEBEN95B] S. J. Zweben, D. S. Darrow, H. W. Herrmann, S. H. Batha, R. V. Budny, C.-S. Chang, Z. Chang, E. D. Fredrickson, D. L. Jassby, L. C. Johnson, et al., "Alpha Particle Loss in the TFTR DT Experiments", *Nuclear Fusion*, **35**, 8, (1995), pp. 893–917.

[ZWEBEN95C] S. J. Zweben, S. Putvinski, M. P. Petrov, G. Sadler, K. Tobita, and K. M. Young. "Alpha-Physics and Measurement Requirements for ITER". in P. E. Stott, G. Gorini, and E. Sindoni, editors, *Diagnostics for Experimental Thermonuclear Reactors*, pp. 467–476. Plenum Press, New York, 1996. Proceedings of the Workshop Held in Varenna (Como), Italy, 28 August – 1 September 1995.

[ZWEBEN95D] S. J. Zweben, D. S. Darrow, H. W. Herrmann, M. H. Redi, J. F. Schivell, and R. B. White, "Measurements of DT Alpha Particles Loss near the Outer Midplane of TFTR", *Nuclear Fusion*, **35**, 12, (1995), pp. 1445–1455.

[ZWEBEN96A] S. J. Zweben, R. V. Budny, C. Z. Cheng, E. D. Fredrickson, G. Y. Fu, D. R. Mikkelsen, G. L. Schmidt, S. D. Scott, D. A. Spong, C. E. Bush, et al., "Search for Alpha Driven TAEs at Lowered Ion Temperature in TFTR DT Discharges", *Nuclear Fusion*, **36**, 8, (1996), pp. 987–1008.

[ZWEBEN97A] S. J. Zweben, V. Arunasalam, S. H. Batha, R. V. Budny, C. E. Bush, S. Cauffman, C. S. Chang, Z. Chang, C. Z. Cheng, D. S. Darrow, et al., "Alpha-particle Physics in the Tokamak Fusion Test Reactor DT Experiment", *Plasma Physics and Controlled Fusion*, **39**, (1997), pp. A275–A283.