Figures:

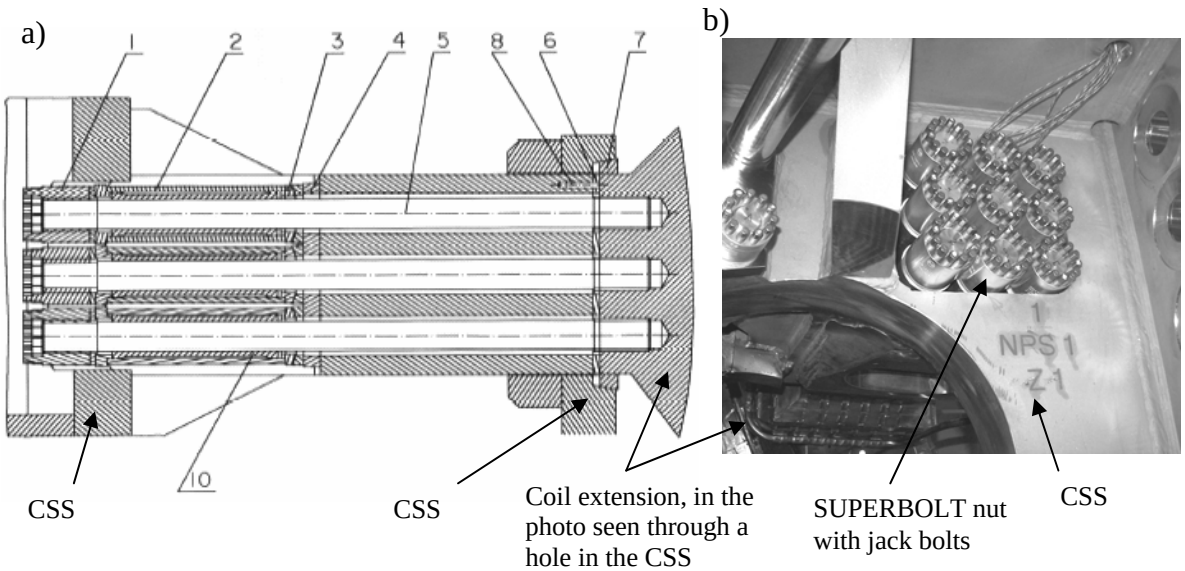

Fig.1. Typical bolted connection: a) cross section, b) view on an installed NPC1Z1. Main connection components are (a): SUPERBOLT® nuts (1), sleeves (2), spherical washers (3), interface plate (4), bolts (5), shim (6), wedges (7), pins (8), centring sleeves (10).

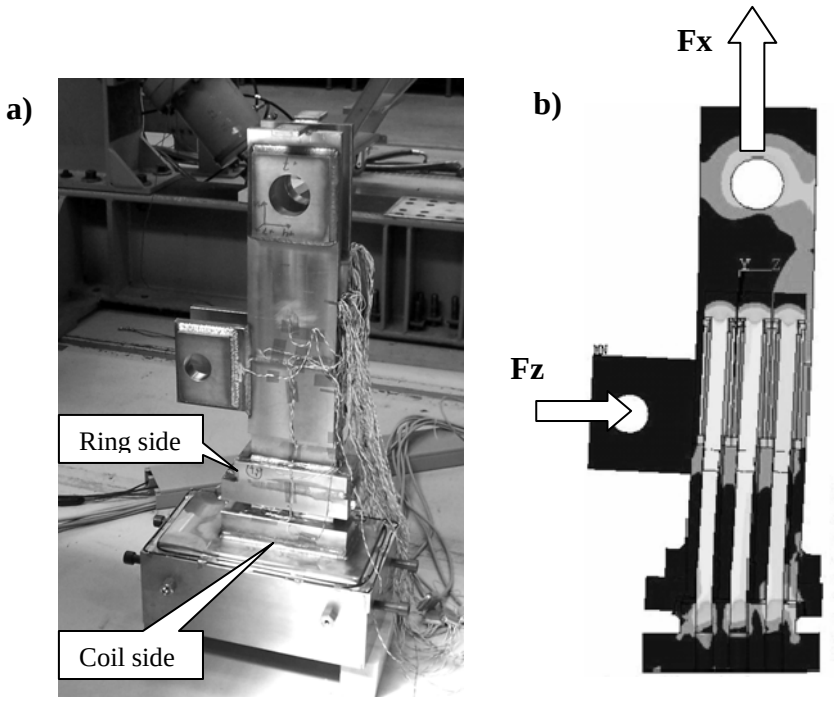

Fig.2. a) Instrumented and preloaded mock-up before installation into base frame,
b) FE model showing the applied vertical Fx and horizontal Fz loads.

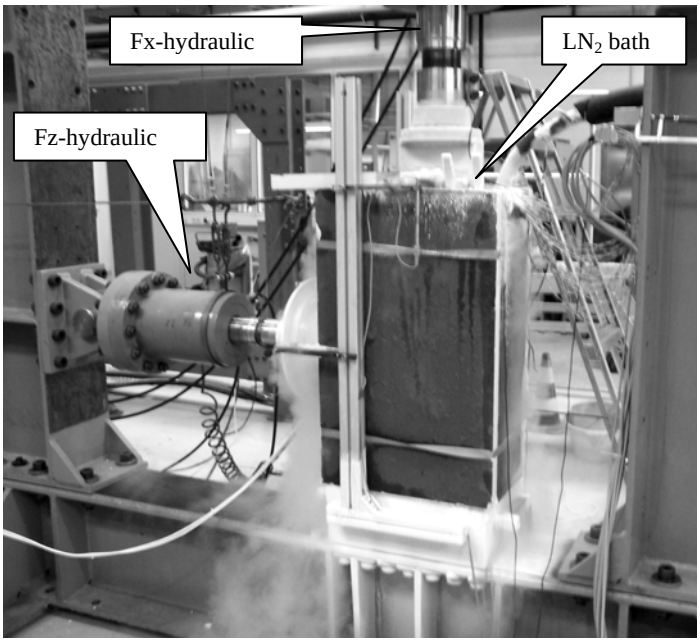

Fig.3. Mock-up immersed in LN_2 during the cycle test.

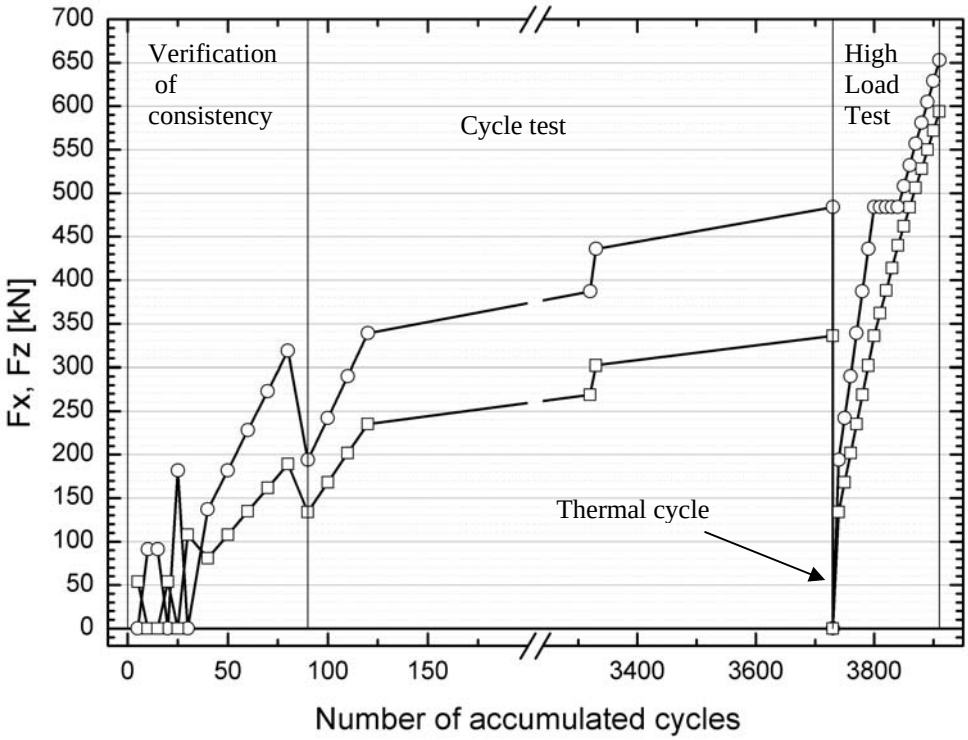

Fig.4. Overview of the performed test program. Circles: vertical load Fx; squares: horizontal load Fz.