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Stacking disorder in 2H-NbS_2 and its intercalation compounds $K_x(H_2O)_yNbS_2$ II. Stacking disorder in $K_x(H_2O)_yNbS_2$

Katze, H.
Fritz-Haber-Institut der Max-Planck-Gesellschaft, Abt Anorganische Chemie, D-14195 Berlin,
Germany

Abstract:
The intercalation reaction of hydrated K^+ ions into the layered structure of 2H-NbS_2 was studied using in situ X-ray diffraction. A structurally complex intercalation mechanism was observed showing several highly one-dimensionally disordered intercalated phases. A quantitative modelling of the disorder in $K_x(H_2O)_yNbS_2$ is presented allowing a complete understanding of the intercalation mechanism.