



Contribution ID: 37

Type: **Poster**

【643】 Intra-atomic exchange and adsorption sites of Ln atoms on NaCl thin films

Tuesday 10 September 2024 19:45 (1 minute)

In this experiment, we study Er, Dy, Gd and Ho deposited on NaCl thin films grown on Ag(100) using STM, IETS and DFT simulations.

The studied lanthanide atoms adsorbed as both adatoms and substitutional atoms. These two species present different adsorption sites, apparent height, and stability. These results agree with the performed DFT simulations.

The dI/dV spectra for Er, Dy and Ho adatoms are the only ones to exhibit symmetric steps in the range of 75-100 meV, corresponding to the intra-atomic exchange coupling between the spin the 4f shell spin and the 5d_{6s} shell.

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Session Classification: Poster Session

Track Classification: Spintronics and Magnetism at the Nanoscale