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【504】Creating and Tuning Electronic states and Phases of NdNiO3

Tuesday 28 June 2022 15:00 (15 minutes)

RENiO3 (RE - Rare Earth elements) exhibit multifunctional physical phenomena related to the spin and orbital degrees of freedom of the transition metal d-states and their interplay with the lattice. Notably, the iso-structure of RENiO3 permits the realization of hetero-structures altering physical matters that are very different from their bulk form.
Our ARPES data demonstrates that substrate-induced strain tunes the splitting of the crystal field, consequently changing the Fermi Surface (FS) properties and thereby controlling the Metal-Insulator Transition (MIT). Furthermore, our comprehensive study discloses the direct magnetic coupling between the NNO film and the manganite layer in proximity, causing the new magnetic phase in nickelates.

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