



European XFEL Theory Seminar

Thursday, 8th July 2021, 16:00

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The curious case of superconducting infinite-layer nickelates

The discovery of superconductivity in Sr-doped thin films of infinite-layer NdNiO_2 in summer 2019 triggered an overwhelming research interest in these materials. Because of their similarity to high- T_c cuprates concerning structure and formal $3d^9$ oxidation state, the long sought-after stable 'cuprate-akin' pairing in nickelates had apparently been found. However, several striking differences to cuprate physics are revealed and already basic electronic structure features of infinite-layer nickelates are still a matter of intense debate. In this talk I will provide a brief introduction to the lively research on infinite-layer nickelates and show that latest developments in the first-principles approach to correlated materials are necessary to face the challenges of these fascinating systems. The case for manifest multi-orbital Ni- e_g physics to explain the various normal-state electronic regimes with doping will be made.

Host: Nils Brouwer

Zoom link:

<https://xfel.zoom.us/j/92259494299?pwd=NCtZWGdYaVNhNzhhUUtlTDdRTzBVUT09>

Meeting ID: 922 5949 4299

Passcode: 536857