ORBITAL-SELECTIVE MOTT TRANSITIONS IN THE ANISOTROPIC TWO-BAND HUBBARD MODEL AT FINITE TEMPERATURES

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The anisotropic degenerate two-orbital Hubbard model is studied within dynamical mean-field theory at low temperatures. High-precision calculations on the basis of a refined quantum Monte Carlo (QMC) method reveal that two distinct orbital-selective Mott transitions occur for a bandwidth ratio of 2 even in the absence of spin-flip contributions to the Hund exchange. The second transition – not seen in earlier studies using QMC, iterative perturbation theory, and exact diagonalization – is clearly exposed in a low-frequency analysis of the self-energy and in local spectra.

9.7 cm

◄──────────────── 13.4 cm ────────────────►

Subject category :

1. Correlated Electrons and High Temperature Superconductors

Presentation mode :
oral

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