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Mott transition in a two-band model FEDERICO BECCA, MICHEL FERRERO, MICHELE FABRIZIO, SISSA and DEMOCRITOS-INFM National Simulation Centre — We investigate the properties of the Mott transition in a two-band Hubbard model with different bandwidths. Using a Gutzwiller approximation, we show that below a critical ratio of the bandwidths, the bands undergo separate Mott transitions, both is the presence or in the absence of a Hund's coupling between the two orbitals. The validity of the approximation is studied within dynamical mean-field theory. In addition, we use a projective self-consistent technique to examine the low-energy part of the spectrum. All our results are in good agreement with the Gutzwiller approximation.

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