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The Anderson-Mott transition for a correlated 2D system MARIA ELISABETTA PEZZOLI, FEDERICO BECCA, GIUSEPPE SANTORO, INFN-CNR Democritos and SISSA (Trieste), MICHELE FABRIZIO, INFN-CNR Democritos, SISSA, and ICTP (Trieste) — The interplay of disorder and electron-electron interaction can lead a bidimensional system to different phase transitions. We show that the Gutzwiller wave function generalized for an inhomogeneous system and with a long-term Jastrow factor provides a proper variational description of the Mott insulating phase and of the compressible disordered phase. Moreover, we identify an order parameter for the disordered Mott transition both in the paramagnetic and in the magnetic case.

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