

## Scaling of the renormalized single-particle wave function near Mott-Hubbard localization

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We discuss quantum critical scaling of the single-particle (Wannier) function near the Mott-Hubbard localization. This wave function is calculated in the Gutzwiller correlated state for the cubic lattices within a novel method previously applied to correlated nanoscopic systems. The wave function size and its maximum, as well as the system electronic energy, all scale as  $R^n$ , with  $n \approx 1$ , signaling the dominant role of the Coulomb interactions. We also relate the critical lattice parameter  $R = R_c$  at the transition to the original *Mott criterion*. The results for 3-dimensional lattices are compared with exact results for the Hubbard chain.