

"Testing Hund's rule in quantum dots through Diffusion Monte Carlo calculations"

Leonardo Colletti, Francesco Pederiva, Enrico Lipparini
Dipartimento di Fisica and INFN, Universita' di Trento, I-38050
Povo, Trento, Italy

Abstract:

We present some results of Diffusion Monte Carlo calculations based on accurate multiconfigurational wave functions for 16 and 24 electrons confined to a parabolic quantum dot.

We discuss our results in comparison with local-spin-density approximation predictions, in particular regarding to ground state polarization.