

Quantum Monte Carlo for Carbon Nanotubes

I discuss how lattice Quantum Monte Carlo methods can be applied to compute the electronic properties of carbon nanotubes, in the presence of strong electron-electron correlations. As a benchmark, I show results for the single-quasiparticle spectrum of the (3,3) armchair nanotube. The prospects for applications to larger nanotubes are discussed, including the connection to recent Quantum Monte Carlo work on graphene.