Quantum Monte Carlo calculations of bulk Li KEVIN RASCH, LUBOS MITAS, North Carolina State University — Using all-electron fixed-node quantum Monte Carlo methods we calculate equations of states for ambient and high pressure phases of Li using the structural data from experimental observations up to high pressures.¹ We compare the suitability of orbital sets from several Density Functional Theory functionals for use in many-body trial Slater-Jastrow wavefunctions. We reduce finite-size errors by utilizing twist-averaging² and by structure factor correction for several sizes of simulation cell.³