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Determinant Quantum Monte Carlo Studies of the Single-band Hubbard-Holstein Model STEVEN JOHNSTON, University of Waterloo, B. MORITZ, Stanford Institute for Material and Energy Sciences, Stanford University, R.T. SCALETTAR, University of California, Davis, T.P. DEVEREAUX, Stanford Institute for Material and Energy Sciences, Stanford University — The role of the electron-phonon (el-p) interaction in strongly correlated systems, such as the transition metal oxides, has attracted considerable interest. In this talk we will present Determinant Quantum Monte Carlo results on the single-band Hubbard-Holstein model at half-filling. The competition between charge-density wave, antiferromagnetic and superconducting order will be examined as a function of temperature, el-ph coupling strength and Hubbard U . Here, we report a suppression of antiferromagnetic order with increasing el-ph coupling with a marked increase in this effect as the polaronic limit is reached. In addition, the impact of the el-ph interaction on the single-particle spectral function will be presented for both the weak and strong el-ph coupling limits.

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