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Low temperature phases of the periodic Anderson model with electron-phonon correlation[1] ENZHI LI, Louisiana State University, PENG ZHANG, Carnegie Institution of Washington, SHUXIANG YANG, KA-MING TAM, JUANA MORENO, MARK JARRELL, Louisiana State University — We study the periodic Anderson model with the conduction electrons coupled to phonons. It has been shown by using the dynamical mean field theory that the model contains two disordered phases, the Kondo singlet phase for strong hybridization and the local moment phase for weak hybridization. In the hybridization-temperature plane, these two phases are separated by a first order phase transition line which terminates at a second order phase transition point. At low temperature the entropy in the Kondo singlet phase is quenched by the formation of a Fermi liquid, while the local moment phase will have residual entropy unless it is quenched by ordering. We calculate the lattice charge susceptibility to demonstrate that the conduction electrons form a charge density wave ordering below a critical temperature.

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