

Abstract Submitted  
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**Periodic Anderson model with Holstein phonons on the conduction band** PENG ZHANG, PETE REIS, KA-MING TAM, MARK JARRELL, JUANA MORENO, FAKHER ASSAAD, ANDY MCMAHAN, None — The volume collapse of Cerium is a long standing problem in condensed matter physics. Recent interest has been attracted to this problem by the experimental discovery that lattice vibrations play an important role in the entropy change of such a first-order phase transition. Using Continuous Time Quantum Monte Carlo as impurity solver of Dynamical Mean Field Theory, the Periodic Anderson Model with Holstein phonons coupling to the conduction band is investigated. Above a certain electron-phonon coupling, we find two coexisting phases separated by a first order transition line, which ends at a second order terminus. One of the coexisting phases is a Kondo Singlet phase with polaronic features while another is local moment phase with bipolaronic features.

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None

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