

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Charge density wave instability in the periodic Anderson model with electron-phonon interaction¹ ENZHI LI, Department of Physics and Astronomy, Louisiana State University , PENG ZHANG, Xi'an Jiaotong University, KA-MING TAM, SHUXIANG YANG, JUANA MORENO, MARK JARRELL, Department of Physics and Astronomy, 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 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. We calculated the susceptibilities for various possible orderings for the model. We found that the charge density wave ordering is robust at low temperature and for weak hybridization. The second order critical point is screened out by the formation of CDW. It is probable that the two phases should be Kondo singlet phase and CDW phase.

¹Work supported by the NSF EPSCoR Cooperative Agreement No. EPS-1003897 with additional support from the Louisiana Board of Regents.

Enzhi Li
Department of Physics and Astronomy, Louisiana State University

Date submitted: 06 Nov 2015

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