Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Numerical study of the periodic Anderson model with a quarter-filled conduction band SHUXIANG YANG, JUANA MORENO, MARK JARRELL, Louisiana State Univ - Baton Rouge — Using the dynamical cluster approximation with continuous-time quantum Monte Carlo as the cluster solver and the recently introduced dual-fermion method, we study the underlying physics of the periodic Anderson model where the conduction band is near quarter-filling while the f-band electron band is half filled. For these parameters, the RKKY coupling changes its nature from ferromagnetic to anti-ferromagnetic, yielding an interesting phase-diagram. Especially, we find the charge ordering of the conduction band is strongly enhanced, which could be due to the proximity to a quantum critical point.

Shuxiang Yang
Louisiana State Univ - Baton Rouge

Date submitted: 14 Nov 2014 Electronic form version 1.4