Abstract Submitted for the MAR06 Meeting of The American Physical Society

Zero temperature phase diagram of the periodic Anderson model LORENZO DE LEO, Rutgers University, MARCELLO CIVELLI, Rutgers University, GABRIEL KOTLIAR, Rutgers University — We study the phase diagram of the periodic Anderson model using a cluster extension of DMFT to take into account non-local effects generated by the RKKY exchange. We employ exact diagonalization in order to access the zero temperature regime which was previously unexplored. In particular we focus our attention away from half filling where the competition between the localization of the heavy electrons and their magnetic ordering could result in a quantum critical point with unusual properties. We also consider the effect of a direct hopping between the f-electrons in order to understand if an indipendent tuning of the RKKY interaction influences the character of the transition.

Lorenzo De Leo Rutgers University

Date submitted: 30 Nov 2005

Electronic form version 1.4