Seminar Abstract

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"Disordered Kondo Nanoclusters: Effect of Energy Spacing"

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Recent progress in fabricating supported nanoclusters with well-controlled inter-atomic distances has made possible to probe experimentally the Kondo physics at the nanoscale. The potential relevance of small systems to quantum computation requires understanding how the infinite-size magnetic properties become modified at the nanoscale, due to a finite energy level spacing Δ. The role of Δ in single-impurity nanoclusters received considerable attention recently, but the case of *dense* impurity clusters remains an unexplored area thus far. We present here recent numerical exact results for Kondo alloyed nanoclusters, which show that tuning Δ reflects in a very rich Δ-disorder magnetic phase diagram, giving rise to a novel tuning of the magnetic behavior of a *dense* strongly correlated nanocluster. Such behavior is expected to be directly relevant to experiments, providing flexibility to manipulate the interplay of Kondo and RKKY effects at different energy scales.