Kondo nano-systems and lattices

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The manipulation of magnetic ad-atoms on metallic surfaces offers the possibility of building Kondo nano-systems and lattices. In this talk, I will review recent quantum Monte Carlo results that aim at understanding various aspects of Kondo systems. In particular, we will concentrate on 1) the crossover from the single impurity to lattice coherence effects on 2) frustration in Kondo lattice models as well as on 3) the validity of the large-N approximation by considering $SU(N)$ Kondo lattice models.

Part of this work has been published in:
[1] B. Danu, F. F. Assaad, and F. Mila, arXiv:1903.08622.
[2] M. Raczkowski and F. F. Assaad, Phys. Rev. Lett. **122**, 097203 (2019).
[3] T. Sato, F. F. Assaad, and T. Grover, Phys. Rev. Lett. **120**, 107201 (2018).