The 2N+1 body problem: An impurity immersed in a strongly correlated fermionic superfluid

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In my talk I will discuss some properties of an impurity immersed in a fermionic superfluid, a problem that generalizes the Fermi-polaron model that was studied extensively in the context of spin-imbalanced superfluid. I will present experimental and theoretical results on the lifetime and the energy of the impurity and I will highlight the role of three-body physics in the phase diagram of the system.