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BCS superconductivity in mixed valence and heavy fermion superconductors¹ LEV P. GOR'KOV, NHMFL, Tallahassee, FL, VICTOR BARZYKIN, University of Tennessee, Knoxville, TN — We consider competition of Kondo effect and s-wave superconductivity in heavy fermion and mixed valence superconductors, using the slave boson $1/N$ approach for the periodic Anderson model. Similar to the well known results for single-impurity Kondo effect in superconductors, we have found that re-entrant behavior of the superconducting transition temperature, T_c , should be observed in heavy fermion superconductors as a function of model parameters or concentration of impurities. Suppression of T_c in mixed valence superconductors is much weaker, without re-entrant behavior of T_c . Our results have most validity in the low-temperature regime.

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