

Abstract Submitted  
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**Kondo resonance narrowing in d- and f-electron systems**<sup>1</sup> ANDRIY NEVIDOMSKYY, PIERS COLEMAN, Rutgers University — By developing a simple scaling theory for the effect of Hund's interactions on the Kondo effect, we show how an exponential narrowing of the Kondo resonance develops in magnetic ions with large Hund's interaction. Our theory predicts an exponential reduction of the Kondo temperature with spin  $S$  of the Hund's coupled moment, a little-known effect first observed in d-electron alloys in the 1960's, and more recently encountered in numerical calculations on multi-band Hubbard models with Hund's interactions. We discuss the consequences of Kondo resonance narrowing for the Mott transition in  $d$ -band materials, particularly iron pnictides, and the narrow ESR linewidth recently observed in ferromagnetically correlated  $f$ -electron materials. For more information see: Phys. Rev. Lett. **103**, 147205 (2009).

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