

Abstract Submitted  
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**The numerical renormalization group and multi-orbital impurity models** ANDREAS WEICHSELBAUM, K. M. STADLER, J. VON DELFT, Ludwig Maximilians University, Munich, Germany, Z. P. YIN, G. KOTLIAR, Rutgers University, Piscataway, New Jersey, ANDREW MITCHELL, Utrecht University, The Netherlands — The numerical renormalization group (NRG) is a highly versatile and accurate method for the simulation of (effective) fermionic impurity models. Despite that the cost of NRG is exponential in the number of orbitals, by now, symmetric three-band calculations have become available on a routine level. [1] Here we present a recent detailed study on the spin-orbital separation in a three-band Hund metal with relevance for iron-pnictides via the dynamical mean field theory (DMFT). [2] In cases, finally, where the orbital symmetry is broken, we demonstrate that interleaved NRG [3] still offers an accurate alternative approach within the NRG with dramatically improved numerical efficiency at comparable accuracy relative to conventional NRG.

[1] Weichselbaum, *Annals of Physics* **327**, 2972 (2012)

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Mitchell et al, *PRB* **89**, 121105(R) (2014)

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