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**Hundness and Mottness in a Three-Band Hund Model with Relevance for Iron Pnictides** KATHARINA STADLER, Ludwig Maximilians University, Munich, Germany, ZHIPING YIN, Beijing Normal University, Beijing, China, JAN VON DELFT, Ludwig Maximilians University, Munich, Germany, GABRIEL KOTLIAR, Rutgers University, New Jersey, USA , ANDREAS WEICHSELBAUM, Ludwig Maximilians University, Munich, Germany — The recently discovered iron pnictide superconductors (as well as chalcogenides, ruthenates, and other 4d transition metal oxides) show puzzling anomalous properties, like a coherence-incoherence crossover, also in the normal state. While there is consensus about strong correlation effects playing a key role in these materials, their precise origin (Coulomb repulsion or Hunds rule coupling between electrons of different orbitals) has been under debate as one of the major open questions in the field many years. In a recent detailed study of the Hund metal problem [1] the coherence-incoherence crossover was shown to be connected to spin-orbital separation and to be clearly driven by Hunds rule coupling. In order to better understand the differences between Mott insulators and Hund metals and to obtain a generic picture of the role of Hunds rule coupling in both regimes, we explore the phase diagram for a channel-symmetric three-band model with Coulomb repulsion and Hunds rule coupling on a Bethe lattice at and away from 1/3 filling using the numerical renormalization group to obtain a numerically exact dynamical mean-field theory solution. [1] K. M. Stadler et al., PRL 115, 136401 (2015)

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