

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Hund's induced Fermi-liquid instabilities and enhanced quasiparticle interactions LUCA DE' MEDICI, PABLO VILLAR ARRIBI, European Synchrotron Radiation Facility, Grenoble — Hund's coupling is shown to generally favor, in a doped half-filled Mott insulator, an increase in the compressibility culminating in a Fermi-liquid instability towards phase separation. The largest effect is found about the frontier between an ordinary and an orbitally-decoupled ("Hund's") metal. The increased compressibility implies an enhancement of quasiparticle scattering, thus favoring other possible symmetry breakings. This physics is shown to happen in simulations of the Fe-based superconductors (BaFe₂As₂, FeSe, FeSe monolayer), possibly implying the relevance of this mechanism in the enhancement of the critical temperature for superconductivity. L. de' Medici, ArXiv:1609.01303, P. Villar Arribi and L. de' Medici, unpublished.

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Date submitted: 17 Nov 2016

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