

Abstract Submitted  
for the MAR14 Meeting of  
The American Physical Society

**Global Phase Diagram in Layered Organic Conductors** YAN

CHEN, YAOWU GUO, Fudan University — Layered organic superconductors serve as model systems for Mott physics with geometrical frustration. The global phase diagram of such system is obtained by using Gutzwiller variational method to study a Hubbard model including a spin exchange coupling term. Five possible candidates of ground state are obtained respectively, including a spin liquid insulating state at large on-site Coulomb repulsion  $U$  and large lattice frustration  $t'/t$ , an antiferromagnetic state at large  $U$  and small  $t'/t$ , two Gossamer superconducting states at medium  $U$  with either gapless  $d_{x^2-y^2}$ -wave (small  $t'/t$ ) or gapped  $d+id$ -wave symmetry (large  $t'/t$ ), and a metallic Fermi liquid state at small  $U$ . Moreover, we study the evolution of double occupancy number  $d$  in terms of different  $U$  and  $t'/t$  parameters mimicking the pressure effect. Our results are qualitatively consistent with main experimental results in organic superconductors. -/abstract- Billing ID: 814549

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Date submitted: 17 Nov 2013

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