

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Orbital current density wave order in iron pnictides HAE-YOUNG KEE, BOHM-JUNG YANG, University of Toronto — In this work we investigate properties of orbital current density wave phases, which are competing with spin density wave states in multiband Fe-pnictide systems. A self-consistent mean field study of t-U-V model Hamiltonian shows that the orbital current density wave phase becomes a ground state within realistic parameter ranges. It turns out that the orbital current density wave state induces abrupt changes of the electron band structure. We also discuss various physical properties of the orbital current density wave state and experimental means to detect it.

Bohm-Jung Yang
University of Toronto

Date submitted: 19 Nov 2009

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