Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Observation of Block Magnetic States within the Orbital-Selective Mott Regime of Multiorbital Hubbard Models JULIAN RINCON, GONZALO ALVAREZ, Center for Nanophase Materials Sciences, Oak Ridge National Laboratory, ADRIANA MOREO, ELBIO DAGOTTO, The University of Tennessee and Oak Ridge National Laboratory — The orbital-selective Mott phase (OSMP) of multiorbital Hubbard models has been extensively analyzed using static and dynamical mean-field approximations. In parallel, the existence of Block states (antiferromagnetically coupled ferromagnetic spin clusters) in Fe-based superconductors has also been much discussed. This effort uses numerically exact techniques in one-dimensional systems to show that the OSMP remains stable even in the presence of full quantum fluctuations. Our main result is the observation of Block states within the OSMP regime, connecting two seemingly independent areas of research, and providing analogies with the physics of Double-Exchange models.

Julian Rincon
Center for Nanophase Materials Sciences, Oak Ridge National Laboratory

Date submitted: 28 Oct 2013 Electronic form version 1.4