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Abstract for an Invited Paper for the SES05 Meeting of the American Physical Society

Transforming organic superconductors, magnets, and insulators with high magnetic fields JAMES BROOKS, Florida State University

Accessible high magnetic fields are ideally matched with the energy scales of electronic and magnetic structure in organic charge transfer complexes. In this presentation some of the more dramatic (and also sometimes controversial) examples of how various ground states are probed, are changed, or are induced in high magnetic fields will be discussed. Avenues to push high field probes of the unusual ground states of these material well beyond conventional transport and magnetization methods will also be discussed.