

Physics Colloquium

UNIVERSITY OF MISSOURI-KANSAS CITY
DEPARTMENT OF PHYSICS

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Center for Nanoscale Science and Engineering
North Dakota State University

Molecule-based Magnets: synthesis, properties and applications

Magnetic materials are indispensable in a modern society, and the search for advanced magnets remains in the focus of the contemporary materials science. Molecule-based magnets are a relatively new class of magnetic materials in which inorganic and/or organic ions or molecules bearing unpaired electron spin density strongly interact magnetically through bonds and/or space. The development of low-temperature chemical vapor deposition method of molecule-based magnetic films fabrication, made these materials perspective for *spintronic* applications. A comprehensive characterization of high-temperature magnet $V^{II}[TCNE]_x$ (TCNE = tetracyanoethylene; $x \sim 2$) as well as a complex study of its electronic structure, transport, optical, and magnetic properties will be discussed.

Physics Department
Robert H. Flarsheim Science & Technology Hall
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September 21, 2007

Coffee at 3:10, Colloquium at 3:30 in Room 310