Abstract Submitted
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**Radical-lanthanide ferromagnetic interaction in a DyIII bis-phthalocyaninato complex**[1] ROBERT STEWART, DORSA KOMIJANI, Department of Physics, Florida State University; National High Magnetic Field Laboratory, MIGUEL GAKIYA, MIKE SHATRUK, Department of Chemistry, Florida State University, ALBERTO GHIRRI, CLAUDIO BONIZZONI, CNR-Instituto Nanoscienze, SVETLANA KLYATSKAYA, EUFEMIO MORENO-PINEDA, MARIO REUBEN, Karlsruhe Institute of Technology (KIT), Institute of Nanotechnology, MARCO AFFRONTE, CNR-Instituto Nanoscienze, STEPHEN HILL, Department of Physics, Florida State University; National High Magnetic Field Laboratory — Lanthanide complexes with radical organic ligands display a unique magnetic coupling mechanism between the delocalized spin density of the radical on the ligand with the localized 4f moment of the lanthanide ion. This mechanism can be used to mediate magnetic coupling between normally isolated lanthanide ions, a highly desired property for several applications such as single molecule (SMMs), spin chain systems and molecular qubits. In this study high-field/high-frequency Electron Paramagnetic Resonance (EPR) measurements were performed on a Dysprosium bis-phthalocyaninato metalorganic complex [Dy Pc2] to investigate the interaction between the radical ligand and the Dy ion. Double axis measurements on a single crystal reveal the easy-axis nature of the Dy(III) moment for each orientation within the unit cell and the magnetic coupling strength between the ion and the radical is measured.

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