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A Possible Mechanism For Photoinduced Effects In Molecule-Based Magnets SERKAN ERDIN, MICHEL VAN VEENENDAAL, Dept. of Physics, Northern Illinois University, DeKalb, IL, 60615 & Argonne National Laboratory,Advanced Photon Source, Argonne, IL 60439 — A mechanism based on charge transfer processes between ligand and metal, for photoinduced effects on magnetic order that are observed in manganese-tetracyanoethylene molecule-based magnet is proposed. In order to support the mechanism, Monte Carlo calculations for a double exchange model with antiferromagnetic interaction between nearest neighbor manganese core spins, J_{AF} on two dimensional metal-ligand lattice are performed. Depending on strength of J_{AF} and the number of electrons in the system, total average magnetization and average angles of core spins are calculated.

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