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High Frequency EPR studies of an antiferromagnetic supramolecular grid SAITI DATTA, STEPHEN HILL, University of Florida, OLIVER WALDMANN, University of Bern, VICTORIA MILWAY, LAURIE THOMPSON, Memorial University, UNIVERSITY OF FLORIDA COLLABORATION, UNIVERSITY OF BERN COLLABORATION, MEMORIAL UNIVERSITY COLLABORATION — The magnetic anisotropy of an antiferromagnetic Mn(II)-[3 x 3] grid was studied by High Frequency Electron Paramagnetic Resonance(HFEPR). The ground state level crossing was observed from various temperature dependent studies. Frequency dependent studies illustrate a breaking of the $\Delta S = 0$ EPR selection rule due to the strong mixing induced by the comparable exchange and magneto-anisotropy energy scales within the grid. In addition, the field-orientation dependence of the energy gap between the ground and first excited state was studied. All of these studies have contributed to a better understanding of this supramolecular grid, which represents a promising candidate to observe the long sought after quantum tunneling of the Néel vector.

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