

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Dzyaloshinskii-Moriya interactions and multiferroic behavior in high-symmetry single molecule magnets¹ RICHARD KLEMM, University of Central Florida, DMITRI EFREMOV, Technische Universitaet Dresden — We study analytically the effects of the antisymmetric exchange, or Dzyaloshinskii-Moriya interactions in high-symmetry single molecule magnets with 2-4 magnetic ions per cluster. When the Moriya rules allow it, such as when an ionic bond does not contain a center of inversion, these interactions can lead to interesting observable effects, including the presence of an electric polarization driven by an applied magnetic field, and associated multiferroic behaviors. We will present our results for tetramers with the common S_4 molecular group symmetry, and for other ultrasmall single molecule magnets.

¹Supported in part by the NSF under contract NER-0304665.

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Date submitted: 01 Dec 2007

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