

Abstract Submitted  
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**Thermal properties and Ehrenfest relation in an “ideal” spin glass.**<sup>1</sup> S.L. BUD’KO, P.C. CANFIELD, Ames Laboratory/Iowa State University, G.M. SCHMIEDESHOFF, Department of Physics, Occidental College — In order to test whether the Ehrenfest relation is applicable to the spin glass “transition,” we report temperature-dependent heat capacity and thermal expansion measurements on an “ideal” spin glass material: single grain icosahedral Gd-Mg-Zn quasicrystal and its non-magnetic counterpart, Y-Mg-Zn. Spin-glass state related signatures are clearly seen in the Gd-Mg-Zn data sets. Directly measured pressure dependence of the freezing temperature in Gd-Mg-Zn is compared to its evaluation through the Ehrenfest relation.

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