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Spin Glass Behavior and Field Induced Anisotropic Magnetic Ordering in S = 2 Frustrated Spinel GeFe2O4 TAO ZOU, Michigan State Univ, ZHILING DUN, University of Tennessee, TAO HONG, HUIBO CAO, CLARINA DELA CRUZ , Oak Ridge National Lab, MICHAEL GOTTSCHALK, MENGZE ZHU, Michigan State Univ, HAIDONG ZHOU, University of Tennessee, XIANGLIN KE, Michigan State Univ — We report comprehensive studies of magnetic properties of spinel GeFe2O4 by means of magnetic susceptibility and heat capacity measurements on both polycrystalline and single crystalline samples as well as neutron powder diffraction measurements. We find that this system shows a spin-glass ground state with the transition temperature around T ˜21 K, in contrast to the static antiferromagnetic order reported in earlier literature. In addition, we reveal a field-induced magnetic ordering, which displays strong magnetic anisotropy character.

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