

Abstract Submitted
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Time Domain Terahertz Spectroscopy Study of Composite Spin Excitations in a Quantum Spin Ice LIDONG PAN, CHRISTOPHER M. MORRIS, SE KWON KIM, Department of Physics and Astronomy, Johns Hopkins University, KATE A. ROSS, Department of Physics and Astronomy, Johns Hopkins University; NIST Center for Neutron Research, NIST, EDWIN KERMARREC, Department of Physics and Astronomy, McMaster University, S.M. KOOHPAYEH, OLEG TCHERNYSHYOV, Department of Physics and Astronomy, Johns Hopkins University, BRUCE D. GAULIN, Department of Physics and Astronomy, McMaster University, N. PETER ARMITAGE, Department of Physics and Astronomy, Johns Hopkins University — We report the terahertz transmission spectra of the quantum spin ice material $Yb_2Ti_2O_7$. Several branches of magnetic absorption are observed with applied magnetic field. We compare the experimental results with classical spin wave analysis, and identify signatures of composite spin excitations.

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