Abstract Submitted for the MAR13 Meeting of The American Physical Society

Time domain terahertz study of quantum spin ice Yb<sub>2</sub>Ti<sub>2</sub>O<sub>7</sub> LI-DONG PAN, YUAN WAN, CHRIS M. MORRIS, Department of Physics and Astronomy, Johns Hopkins University, Baltimore, Maryland 21218, USA, KATE A. ROSS, Department of Physics and Astronomy, McMaster University, Hamilton, Ontario, L8S 4M1, Canada, S.M. KOOHPAYEH, The Institute for Quantum Matter, Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD 21218 USA, BRUCE D. GAULIN, Department of Physics and Astronomy, McMaster University, Hamilton, Ontario, L8S 4M1, Canada, OLEG TCHERNYSHYOV, N. PETER ARMITAGE, Department of Physics and Astronomy, Johns Hopkins University, Baltimore, Maryland 21218, USA — We report the time domain terahertz spectroscopy study of the quantum spin ice material Yb<sub>2</sub>Ti<sub>2</sub>O<sub>7</sub>. Temperature and magnetic field dependence of the transmission spectrum was obtained. Several spin resonance absorption peaks are observed in magnetic field. The results are discussed in comparison with the recently proposed theory of the quantum string excitations in this material.

> LiDong Pan Department of Physics and Astronomy, Johns Hopkins University, Baltimore, Maryland 21218, USA

Date submitted: 26 Nov 2012

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