

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Infrared optical properties of multiferroic $\text{FeTe}_2\text{O}_5\text{Br}$ single crystal¹ KEVIN H. MILLER, C. MARTIN, X. XI, University of Florida, H. BERGER, Ecole Polytechnique Federal de Lausanne, G.L. CARR, Brookhaven National Laboratory, D.B. TANNER, University of Florida — Reflection as a function of temperature has been measured on a single crystal of the anisotropic multiferroic $\text{FeTe}_2\text{O}_5\text{Br}$ utilizing light spanning the far infrared to the visible portions of the electromagnetic spectrum. The complex dielectric function and optical properties along all three principal dielectric axes were obtained via Kramers-Kronig analysis and by fits to a Drude-Lorentz model. Transmission in the terahertz region as a function of temperature and magnetic field is also described, with particular focus on temperatures around the ~ 10 K transition to the multiferroic state.

¹Supported by the US DOE through contract DE-FG02-02ER45984 at UF and DE-AC02-98CH10886 at the NSLS.

Kevin H. Miller
University of Florida

Date submitted: 17 Nov 2010

Electronic form version 1.4