

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Bulk optical properties of topological insulators Na₂IrO₃ and Bi₂Se₃¹ DON SCHMADEL, A.B. SUSHKOV, H.D. DREW, Materials Research Science and Engineering Center, Department of Physics, University of Maryland at College Park, N.P. BUTCH, J. PAGLIONE, Center for Nanophysics and Advanced Materials, Department of Physics, University of Maryland at College Park, K.R. CHOI, Y.J. CHOI, S.-W. CHEONG, Rutgers Center for Emergent materials and Department of Physics and Astronomy, Rutgers University — Topological insulators have recently attracted much attention due to their unusual electronic properties associated with a topologically protected spin singlet surface state with a Dirac dispersion relation. A novel quantized Kerr/Faraday rotation has been predicted for this system. In preparation for studying this effect, we have measured the bulk optical properties of two topological insulators. We will discuss reflectivity and transmission spectra of single crystals of both compounds in the infrared to UV frequency range and compare with the band structure calculations.

¹Work supported in part by CNAM and NSF-MRSEC at UMD CP.

Don Schmadel
Materials Research Science and Engineering Center, Dept of Physics,
University of Maryland at College Park

Date submitted: 09 Dec 2009

Electronic form version 1.4