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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.

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