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Optical spectroscopy and Fermi surface studies of BiTeCl and BiTeBr[1] CATALIN MARTIN, Ramapo College of New Jersey, A.V. SUSLOV, National High Magnetic Field Laboratory, Tallahassee, FL, 32310, S. BUVAEV, A.F. HEBARD, University of Florida, Gainesville, Florida, 32611, USA, PHILIPPE BUGNON, HELMUTH BERGER, ARNAUD MAGREZ, Crystal Growth Facility, Ecole Polytechnique Federale de Lausanne, Switzerland, D.B. TANNER, University of Florida, Gainesville, Florida, 32611, USA — The observation of a large bulk Rashba effect in the non-centrosymmetric semiconductors BiTeX(X=Cl, Br, I) has stimulated the interest in these sys- tems, as promising candidates for studying spin related phenomena and for the realization of spin devices. Here we present a comparative study of the electronic properties of BiTeCl and BiTeBr, determined from temperature dependent infrared spectroscopy and Shubnikov-de Haas oscillations. In par- ticular, we compare the angle dependence of quantum oscillations between the two compounds and discuss possible differences between the topology of their Fermi surfaces.

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