

Abstract Submitted
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Magneto-optical transmission of Bi_2Se_3 at the fundamental absorption edge GERARD MARTINEZ, MILAN ORLITA, BENJAMIN PIOT, MAREK POTEMSKI, LNCMI, CNRS, France, YEW SAN HOR, Missouri University of Science and Technology, MO, USA, G. STRZELECKA, A. HRUBAN, Institute of Electronic Materials, Warsaw, Poland — Magneto-optical transmission spectroscopy of a series of n-type Bi_2Se_3 samples have been performed, around the fundamental absorption edge, up to 32 T. The absorption edge splits in two components related to the two spin polarization of the transmission. This spin splitting increases linearly with the magnetic field up to a critical value B_C , depending on the carrier density, beyond which it remains constant. This corresponds to a complete spin polarization of the compound. The consequences of this specific property put some constrains on the parameters of the Hamiltonian describing the system.

Gerard Martinez
LNCMI, CNRS, France

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