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Topological insulating state in bismuth doped with antimony and arsenic: infrared and magneto-optical studies G.M. FOSTER, S.V. DORDEVIC, The University of Akron, N. STOJILOVIC, University of Wisconsin Oshkosh, V.M. NIKOLIC, Institute for Multidisciplinary Research, University of Belgrade, S.S. VUJATOVIC, Z.Z. DJURIC, P.M. NIKOLIC, Serbian Academy of Sciences and Arts, Z. CHEN, Z.Q. LI, National High Magnetic Field Laboratory, Tallahassee
— Bismuth and its alloys with antimony have attracted attention in recent years due to the possibility of having a topological insulating state. In this study we have used infrared and magneto-optical spectroscopies to probe the electrodynamic response of bismuth doped with of antimony and arsenic. The spectra will be presented for temperatures down to 5 K, and in magnetic fields as high as 18 Tesla. The results have revealed a strong magneto-optical activity, especially around the plasma minimum in reflectance. These findings will be compared and contrasted with magneto-optical results from other 3D topological insulators.

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