Abstract Submitted
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The semiconducting surface of In_4Se_3[1] M. KLINKE, E. CAI, I. RODRIGUEZ, JIANDI ZHANG, Florida International University, R. MATZDORF, Univ. Kassel, Y. LOSOVYI, J. LUI, P.A. DOWBEN, Dept. of Physics and Astronomy and the Nebraska Center for Material and Nanoscience, L. MAKINISTIAN, Facultad de Ingeniería, Univ. Nacional de Entre Ríos, E.A. ALBANESI, INTEC-CONICET, A. PETUKOV, South Dakota School of Mines, Dept. of Physics, YA. FIYALA, P. GALIY, Electronics Dept., Lviv National Univ. — The layered crystal In_4Se_3 is of growing interest because of its natural two dimensional structure and anomalies concerning transport properties. We have studied both the lattice and electronic band structures of cleaved (001) surface of In_4Se_3. Both LEED and STM reveal a $p(1\times1)$ surface structure with quasi-one dimensional atomic chains. ARPES data also confirm such quasi-one dimensional character with a very anisotropic band structure. The surface electronic density of states measured by tunneling spectroscopy is compared with theoretical calculations.

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