Abstract Submitted
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De Haas - van Alphen quantum oscillations in $AgSbTe_2$[1] JOSEPH HEREMANS, VLADIMIR JOVOVIC, The Ohio State University — Quantum oscillations are observed in the magnetic susceptibility of *p*-type single crystals of $AgSbTe_2$, at 5 K in magnetic fields up to 5 Tesla (the De Haas - van Alphen effect). The period of the oscillations is analyzed in terms of the cross-section of the hole Fermi surface. Recent band structure calculations[1] illustrate the dependence of the hole Fermi surface structure on the ordering of the Ag and the Sb atoms on the metal sublattice, and provide guidance for the interpretation of the periods of the oscillations. Galvanomagnetic studies of the same sample[2] provide a hole density of $5x10^{19}$ cm^{-3}, so that an image for the valence band Fermi surface can be reconstructed at that carrier density level. The measured Fermi surface cross-sections, together with the transport properties, give an overall picture that is consistent with the calculation valid for $AgSbTe_2$ with Ag and Sb ordered on the metal sublattice. [1] Khang Hoang, S. D. Mahanti, James R. Salvador, and Mercouri G. Kanatzidis, Atomic Ordering and Gap Formation in Ag-Sb Based Ternary Chalcogenides, Phys. Rev. Lett. 2007, accepted [2] V. Jovovic and J. P. Heremans, Galvanomagnetic and Thermomagnetic properties of $AgSbTe_2$, abstract here

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Joseph Heremans
The Ohio State University

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