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Pressure Dependent Magnetotransport Properties of Dilute Magnetic Semiconductors M. CSONTOS, G. MIHALY, Department of Physics, Budapest University of Technology and Economics, 1111 Budapest, Hungary, T. WOJTOWICZ, Institute of Physics, Polish Academy of Sciences, 02-668 Warsaw, Poland, B. JANKO, X. LIU, J. K. FURDYNA, Department of Physics, University of Notre Dame, Notre Dame, Indiana 46556, USA — The Mn^{2+} ions in (III,Mn)V ferromagnetic semiconductors provide magnetic moment and at the same time they act as a source of valence-band holes that mediate the Mn^{2+}-Mn^{2+} interactions. This coupling results in the ferromagnetic phase. By using hydrostatic pressure to continuously tune the wavefunction overlap, one can control the strength of the ferromagnetic coupling resulting in a spectacular enhancement of the magnetization and the Curie-temperature [M. Csontos et al. Nature Materials **4**, 447 (2005)]. Magnetoresistance measurements on the magnetic semiconductor (In,Mn)Sb suggest that magnetic scattering in this material is dominated by isolated Mn^{2+} ions located outside the ferromagnetically ordered regions [M. Csontos et al. Phys. Rev. Lett. **95**, 227203 (2005)]. The transport properties in presence of high magnetic field and hydrostatic pressure have also been investigated by Hall-effect and thermoelectric power measurements.

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