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Ferromagnetic-paramagnetic transition in p-Si/SiGe due to Landau levels overlapping[1] ALEXEY SUSLOV, NHMFL-FSU, Tallahassee, Florida 32310, USA, I.L. DRICHKO, I.YU. SMIRNOV, A.F. Ioffe PTI of RAS, St.-Petersburg 194021, Russia, O.A. MIRONOV, Warwick SEMINANO R&D Centre, University of Warwick SP, Coventry CV4 7EZ, UK, D.R. LEADLEY, Department of Physics, University of Warwick, Coventry CV4 7AL, UK — The magnetoresistance ρ_{xx} and ρ_{xy} as well as attenuation and velocity change of surface acoustic waves were measured in a p-Si/SiGe sample with p=2×10^{11} cm^{-2}. The research was performed in the temperature range of 0.3-2 K and in the magnetic fields of up to 18 T tilted with respect to the two-dimensional (2D) channel plane. The dependence of the g-factor g*(Θ)/g*(0°) on the tilt angle was determined. The measurements of ρ_{xx} and ρ_{xy} in the tilted magnetic field showed that the anomaly in ρ_{xx} observed at filling factor ν =3/2 is insignificant in the conductivity σ_{xx}. The anomaly in σ_{xx} at ν =2 might be explained by overlapping of the levels with different spins 0↑ and 1↓ when the tilt angle of the applied magnetic field is changed. The overlapping occurs at Θ of about 60° and causes a ferromagnetic-paramagnetic transition.

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