Abstract Submitted
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Studies of the (013) HgTe/Cd_xHg_{1-x}Te heterostructure in tilted high magnetic fields[1] A.V. SUSLOV, NHMFL-FSU, Tallahassee, FL 32310, USA, I.YU. SMIRNOV, Ioffe PTI, RAS, St. Petersburg 194021, Russia, M.V. YAKUNIN, S.M. PODGORNYH, Institute for Metal Physics, RAS, Yekaterinburg 620147, Russia, N.N. MIKHAILOV, S.A. DVORETSKY, Institute of Semiconductor Physics, RAS, Novosibirsk 630090, Russia — Properties of 2D carriers in the symmetrically doped Cd_xHg_{1-x}Te/HgTe/Cd_xHg_{1-x}Te heterostructure with the quantum well thickness of 20 nm, carrier density n = 1.6 $\times 10^{11}$ cm^{-2}, and mobility $\mu = 28\ m^2/Vs$ were studied in tilted magnetic fields of up to 18 T at temperature 0.6 K. The heterostructure was grown on a (013) surface of a GaAs wafer as it was expected that the quantum well quality might be better than if created on a customary (001) surface. Coincidence of quantum levels in the range of SdH oscillations at $\nu = 4$ and 6 was observed at the tilt angle values of about 67, 78, and 83^0. Thus, m^*g^*/m_0=0.786 and if the effective mass $m^*/m_0 = 0.024$, the effective g-factor g*=33 in agreement with the value obtained on the (001) oriented HgTe/Cd_xHg_{1-x}Te wells. However, in the quantum Hall regime at $\nu = 3$ maximum of the magnetoresistance does not occur at the corresponding critical angle of 78^0.

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