Abstract Submitted
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Zero Differential Resistance State in double GaAs quantum wells at high filling factors[1] ALEXEY BYKOV, E.G. MOSULEV, Institute of Semiconductor Physics, 630090 Novosibirsk, Russia, S.A. VITKALOV, The City College of New York, New York, NY 10031, USA — Differential resistance r_{xx} of 2D electrons was investigated in double GaAs quantum wells placed in magnetic fields $B < 0.5$ (T) at temperatures $T = 1.6 - 4.2$ (K). Electron state with Zero Differential Resistance (ZDR) is found in finite current range at maximums of inter-subband quantum oscillations. The experiment shows that the ZDR state exists at $2R_cE_H/\hbar\omega_c < 1/2$, where R_c is electron cyclotron radius at Fermi level, E_H is Hall electric field, induced by the *dc* bias, and ω_c is cyclotron frequency.

[1] A.A. Bykov, E. G. Mosulev and S. A. Vitkalov, JETP Letters v92, (2010) to be published

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