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Effect of electron-electron scattering on magneto-intersubband resistance oscillations of two dimensional electrons in GaAs quantum well[1] SERGEY VITKALOV, Physics Department, City College of City University of New York, New York NY, USA, A.V. GORAN, A.A. BYKOV, A.I. TOROPOV, Institute of Semiconductor Physics, Russian Academy of Sciences, Siberian Division, Novosibirsk, Russia — The low-temperature ($4.2 < T < 12.5$ K) magnetotransport ($B < 2$ T) of two-dimensional electrons occupying two subbands (with energy E_1 and E_2) is investigated in GaAs single quantum well with AlAs/GaAs superlattice barriers. Two series of Shubnikov-de Haas oscillations are found to be accompanied by magneto-intersubband (MIS) oscillations, periodic in the inverse magnetic field. The period of the MIS oscillations obeys condition $\Delta_{12} = (E_2 - E_1) = k \cdot \hbar\omega_c$, where Δ_{12} is the subband energy separation, ω_c is the cyclotron frequency and k is positive integer. At T=4.2 K the oscillations manifest themselves up to k=100. Strong temperature suppression of the magneto-intersubband oscillations is observed. We show that the suppression is result of electron-electron scattering.

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