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**Nonlinear conductance of highly mobile 2D electrons in Corbino geometry**[1] SEAN BYRNES, SCOTT DIETRICH, Graduate Center, CUNY, New York, NY 10016 USA, SERGEY VITKALOV, Physics Department, City College of the City University of New York, New York 10031, USA, D. V. DMITRIEV, I. V MARCHISHIN, A. A. BYKOV, Institute of Semiconductor Physics, 630090 Novosibirsk, Russia — Current induced oscillations of differential conductivity of two-dimension electrons, placed in quantizing magnetic fields, are observed in GaAs quantum wells in Corbino geometry. The conductance oscillations are described by Zener tunneling between Landau orbits in the absence of the Hall electric field[1]. An electronic state with zero-differential conductance is found in nonlinear response to an electric field E applied to two dimensional Corbino discs of highly mobile carriers. The state occurs above a critical electric field $E > E_{th}$ at low temperatures and is accompanied by an abrupt dip in the differential conductance. The proposed model consider local instability of the electric field E as the origin of the observed phenomenon. [1] A.A Bykov, D.V. Dmitriev, I.V.Marchishin, S.Byrnes, S.A.Vitkalov, Appl. Phys. Lett.100, 251602 (2012)

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