

Abstract Submitted
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Temperature-induced reorientation of quantum Hall stripes¹ M. ZUDOV, Q. SHI, University of Minnesota, B. FRIESS, J. SMET, Max-Planck-Institute for Solid State Research, J. WATSON, G. GARDNER, M. MANFRA, Purdue University — We report observation of orthogonal orientations of quantum Hall stripes detected in magnetoresistance measured at different temperatures in a high-quality GaAs quantum well with the magnetic field tilted slightly away from the sample normal. Despite non-hysteretic magnetoresistance at low and high temperatures, field-cooling at a fixed filling factor close to $\nu = 9/2$ and observation of hysteresis at intermediate temperatures allow us to conclude that the stripes orientation at low temperature is metastable. These findings suggest that low-temperature magnetotransport data should be treated with caution as they do not necessarily reveal the true ground state, and that the native symmetry-breaking potential has a very weak temperature dependence.

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