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Influence of magnetic field orientation on the Zeeman spin-splitting in InGaAs quantum point contacts THEODORE MARTIN, Naval Research Laboratory, Washington, DC 20375, USA, ALEX SZORKOVSZKY, ADAM MICOLICH, ALEX HAMILTON, School of Physics, University of New South Wales, Sydney NSW 2052, Australia , COLLEEN MARLOW, RICHARD TAYLOR, Department of Physics, University of Oregon, Eugene OR 97403, USA, HEINER LINKE, HONGQI XU, Division of Solid State Physics, Lund University, Box 118, S-221 00 Lund, Sweden — We present measurements of the Zeeman spin-splitting in a quantum point contact (QPC) etched into an InGaAs/InP heterostructure [1], comparing magnetic field orientations in the plane and perpendicular to the InGaAs quantum well. We observe an isotropic Zeeman splitting for fields oriented in the plane of the quantum well, with a magnitude that is enhanced by up to a factor of two compared to two-dimensional electron systems in InGaAs/InP [2]. The Zeeman splitting is much larger when the magnetic field is perpendicular to the quantum well, resulting in a g-factor of 15.7 in the one dimensional limit.

[1] T. P. Martin, *et al.*, *Appl. Phys. Lett.* **93**, 012105 (2008).
[2] B. Kowalski, *et al.*, *Phys. Rev. B* **49**, 14786 (1994).

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