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Zero-bias peaks in InSb nanowire hybrid devices: magnetic field anisotropy, peak splittings and phase diagrams PENG YU, JUN CHEN, Department of Physics and Astronomy, University of Pittsburgh, MORA HOCEVAR, Institut Nel CNRS, 38042 Grenoble, France, DIANA CAR , Eindhoven University of Technology, The Netherlands, SBASTIEN PLISSARD , LAAS CNRS, France, ERIK BAKKERS , Eindhoven University of Technology, The Netherlands, SERGEY FROLOV, Department of Physics and Astronomy, University of Pittsburgh — Majorana bound states (MBS) are predicted to emerge in a 1D nanowire system with spin-orbit interaction, induced superconductivity and external magnetic field. We made devices using InSb nanowires based on that prescription with different electrode geometries. Zero-bias peaks (ZBPs) are observed at finite field and in some devices persist to over 2 Tesla. At high fields, some devices show split ZBPs, which is in agreement with the theory of two overlapping MBS in a finite-length topological superconductor. Field and gate scans at different field angles confirm those Zero-bias peaks only appear within a small angle around the nanowire axis. Ongoing measurements in three-terminal devices are used to extract additional information about the origin of the ZBP and its splitting.

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