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**Estimation of in-plane g-factor and disorder of InSb quantum wells via magnetoconductance mapping** J.T. MLACK, Center for Quantum Devices, Niels Bohr Institute/Department of Physics and Astronomy, Johns Hopkins University, M.B. SANTOS, Homer L. Dodge Department of Physics and Astronomy, University of Oklahoma, C.M. MARCUS, Center for Quantum Devices, Niels Bohr Institute, University of Copenhagen — We show the magnetoconductance mapping of an InSb quantum well(QW) and use the mapping to estimate material properties. Measurement and fitting of the suppression of weak antilocalization by an in-plane field oriented along in-plane crystal axes provides estimates of the QW's g-factor and disorder. By comparing measurements along different crystal axes, a variation in the estimated parameters is observed. The observed variation is consistent across different hall bars and is dependent on the direction of the applied field with respect to the crystal axes. These results show the utility of such measurements in better understanding the material properties of QW's.

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