

Abstract Submitted
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Observation of intrinsic spin-Hall effect in transport EWELINA HANKIEWICZ, Fordham University, MARKUS KOENIG, ALENA NOVIK, Wuerzburg University, JAIRO SINOVA, Texas A&M University, HARTMUT BUHMANN, LAURENS MOLENKAMP, Wuerzburg University — We study spin transport in n and p-doped mesoscopic H-bar structures fabricated from HgTe/HgCdTe quantum wells. In experiment the current is driven in one leg of H-bar structure while the second one is used to detect the voltage signal (similar to proposal presented in PRB 70, 241301(2004)) In p-doped samples, our data seem to confirm the existence of intrinsic spin-Hall effect. We also present the Landauer- Buttiker calculations with realistic parameters and details of band structure to verify experimental observation.

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