

Abstract Submitted
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Optimising Magnetoresistance in InSb WILL BRANFORD, Blackett Laboratory, Imperial College, Prince Consort Road, London, SW7 2BZ, U.K, ANKE HUSMANN, Cambridge Research Laboratory, Toshiba Research Europe Limited, 260 Cambridge Science Park, Cambridge, UK, STUART SOLIN, Department of Physics and Center for Materials Innovation, Washington University in St. Louis, 1 Brookings Drive, St. Louis, MO 63141, USA, STEVEN CLOWES, TONG ZHANG, YURY BUGOSLAVSKY, LESLEY COHEN, Blackett Laboratory, Imperial College, Prince Consort Road, London, SW7 2BZ, U.K — The extraordinary magnetoresistance (EMR) geometry produces the highest low field MR to date. Here we address the high field MR of InSb comparing materials from several sources and studying the behaviour when processed into a set of standard and novel geometries. We find that the Corbino geometry still produces the largest high field MR, but the linearity of the high field MR in a micron thick InSb film is enhanced by the fabrication of an array of interconnected circles with high resistance bridges. Nevertheless, unprocessed submicron InSb epilayers also show enhanced linear MR properties. This work was funded by EPSRC and by NSF grant ECS-0329347.

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