

Abstract Submitted
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Singular elastic strains and magnetoresistance of suspended graphene¹ G. LEON, ICMM CSIC, SPAIN, E. PRADA, P. SAN-JOSE, Lancaster U, UK, M. M. FOGLER, UCSD, F. GUINEA, ICMM CSIC, SPAIN — Graphene membranes suspended off electric contacts or other rigid supports are prone to elastic strain, which is concentrated at the edges and corners of the samples. Such a strain leads to an algebraically varying effective magnetic field that can reach a few Tesla in sub-micron wide flakes. In the quantum Hall effect regime the interplay of the effective and the physical magnetic fields causes backscattering of the chiral edge channels, which can result in overshoots or even complete destruction of the quantized resistance plateaus.

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