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Spin transport in rough graphene nanoribbons¹ INANC
ADAGIDELI, MICHAEL WIMMER, Universitaet Regensburg, SAVAS BERBER,
DAVID TOMANEK, Michigan State University, KLAUS RICHTER, Universitaet
Regensburg — We investigate spin conductance in zigzag graphene nanoribbons
and propose a spin injection method based only on graphene. Combining density
functional theory with tight-binding transport calculations, we find that nanoribbons
with asymmetrically shaped edges show a non-zero spin conductance and can
be used for spin injection. Furthermore, we show that nanoribbons with rough
edges exhibit mesoscopic spin conductance fluctuations with a universal value of
 $\text{rms}G_s \approx 0.4e/4\pi$.

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Inanc Adagideli
Universitaet Regensburg

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