

Abstract Submitted
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Tearing of Graphene¹ MARIA MOURA, MICHAEL MARDER, Department of Physics - University of Texas at Austin — Experiments on free standing graphene can expose the graphene sheets to out-of-plane forces. An example of that is the back-gate voltage experimental setup. Here we show that out-of-plane forces can cause free standing graphene to fracture. This fracture mode is known as tearing mode and is common in materials like paper. We present a numerical study of the propagation of cracks in clamped, free standing graphene as a function of the out-of-plane force. We report a threshold for the graphene fracture energy.

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