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**Statistical Mechanics of Sliced Graphene Ribbons.** MARK BOWICK, Syracuse University, EMILY RUSSELL, Google, RASTKO SKNEPNEK, University of Dundee, DAVID NELSON, Harvard University — Two-dimensional crystalline membranes have recently been realized experimentally in such systems as graphene and molybdenum disulfide, sparking a resurgence in interest in their statistical properties. Thermal fluctuations can significantly change the effective mechanical properties of these membranes, renormalizing both bending rigidity and elastic moduli so that thermal membranes are stiffer to bending than their bare bending rigidity would suggest. We use molecular dynamics simulations to examine the further effect of topology and geometry on the properties of thermal membranes, and find that the introduction of a slit suppresses the scale of thermal fluctuations.

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