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**Quasi-bound states in strained graphene** DARIO BAHAMON, Mackenzie Presbyterian University, ZENAN QI, HAROLD PARK, Boston University, VITOR PAREIRA, National University of Singapore, DAVID CAMPBELL, Boston University — In this work, we explore the possibility of manipulating electronic states in graphene nanostructures by mechanical means. Specifically, we use molecular dynamics and tight-binding models to access the electronic and transport properties of strained graphene nanobubbles and graphene kirigami. We establish that low energy electrons can be confined in the arms of the kirigami and within the nanobubbles; under different load conditions the coupling between confined states and continuous states is modified creating different conductance line-shapes.

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