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Layer Effects in Graphene NEMS Resonators BRITTON BAUGHER, TCHEFOR NDUKUM, KEVIN FISCHER, PABLO JARILLO-HERRERO, Massachusetts Institute of Technology — In this talk we will present new data on mono, bi, and tri-layer graphene nanoelectromechanical (G-NEMS) resonators. G-NEMS resonators utilize graphene's high mobility, high Young's modulus, Dirac-like dispersion relation, and other unique qualities to produce unusual physical phenomena at the intersection of electronics and mechanics on the quantum scale. We extend the work done on these devices with a study into the effects of layer number on temperature dependence, quality factor, tunability, and frequency amongst others.

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