

Abstract Submitted
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Graphene Mechanical Resonators under Large Strain SEITA ONISHI¹, QIN ZHOU², ALEX ZETTL³, Department of Physics, University of California, Berkeley, CA 94720, USA — Graphene has shown promise as a high frequency mechanical resonator due to its high Young's modulus and light mass [1]. With large strains, theoretical predictions anticipate even changes to graphene's band structure [2]. We developed an integrated platform to apply large strains on suspended graphene with a MEMS based actuator. We will show preliminary results on the optical detection of the change in resonance frequency as the graphene mechanical resonator is strained.

[1] J. Scott. Bunch, et al. *Science* 315, 490 (2007)

[2] Vitor M. Pereira, A.H. Castro Neto and N. M. R. Peres. *Phys. Rev. B* 80, 045401 (2009)

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