

Abstract Submitted
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Graphene-based nanomechanical cooling device¹ WAN-JU LI, DAOXIN YAO, ERICA CARLSON, Purdue University — We propose a novel structure for nanomechanical cooling, based upon graphene. Because thermal transport occurs perpendicular to the surface of the substrate, the proposed structure can be used to facilitate thermal transport between two objects in contact. Furthermore, the strength of the Seebeck coefficient may be tuned by applying pressure. We calculate the Seebeck coefficient in this geometry, as a function of applied voltage and strain.

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