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**Tunable Quantum Temperature Oscillations in Graphene and Carbon Nanoribbons** JUSTIN BERGFELD, MARK RATNER, Northwestern University, CHARLES STAFFORD, University of Arizona, MASSIMILIANO DI VENTRA, University of California, San Diego — We investigate the local electron temperature distribution in carbon nanoribbon (CNR) and graphene junctions subject to an applied thermal gradient. Using a realistic model of a scanning thermal microscope, we predict quantum temperature oscillations whose wavelength is related to that of Friedel oscillations but is not directly related to the local density of states. Experimentally, this wavelength can be tuned over several orders of magnitude by gating/doping, bringing quantum temperature oscillations within reach of the spatial resolution of existing measurement techniques.

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