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Soldering to a single atomic layer CAGLAR GIRIT, ALEX ZETTL, UC Berkeley, LBNL — The standard technique to make electrical contact to nanostructures is electron beam lithography. This method has several drawbacks including complexity, cost, and sample contamination. We present a simple technique to cleanly solder submicron sized, Ohmic contacts to nanostructures. To demonstrate, we contact graphene, a single atomic layer of carbon, and investigate low- and high-bias electronic transport. We set lower bounds on the current carrying capacity of graphene. A simple model allows us to obtain device characteristics such as mobility, minimum conductance, and contact resistance.

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