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Devices for investigating low temperature electronic transport in graphene under surface acoustic wave irradiation ADRIAN NOSEK, ALICIA LOPEZ PANIAGUA, University of California, Riverside, JOSE FLORES, Ohio State University, MARC BOCKRATH, University of California, Riverside — Surface acoustic waves can be generated by an interdigital transducer on a piezoelectric material driven by an ac voltage. When exposed to surface acoustic waves, a tunable acoustic current has recently been realized by changing the charge carrier density on large scale CVD graphene devices using an electrolytic gate in aqueous solution [1]. Here we present the fabrication of devices to investigate the effects of such waves on the low-temperature transport properties of graphene using a Hall bar structured graphene-hBN heterostructure on a quartz substrate. Our latest results will be discussed. [1] Okuda S. et al., Acoustic carrier transportation induced by surface acoustic waves in graphene in solution, Appl. Phys. Express 9, 045104 (2016).

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