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Transport in Strained Graphene at Low Temperatures JUAN AGUILERA-SERVIN, ADRIAN NOSEK, CHENG PAN, MARC BOCKRATH, Univ of California - Riverside — Strain in graphene layers produces synthetic gauge fields that may be used to modify the properties of its electron system [1,2]. We study single layers of graphene transferred over Ti/Au electrical contacts on oxidized Si wafers with etched triangular holes in the oxide. The layers are strained by applying pressure electrostatically using a gate voltage and hydrostatically using an external inert gas. We investigate electronic transport in this suspended variable-strain graphene system at low temperatures. We will discuss our latest results. [1] Guinea, F., Katsnelson, M. I., Geim, A. K. Energy gaps and a zero-field quantum Hall effect in graphene by strain engineering. Nat. Phys. 6, 30-33 (2009). [2] Levy, N., et al. Strain-induced pseudo–magnetic fields greater than 300 tesla in graphene nanobubbles. Science, 329 544-547 (2010).

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