

Abstract Submitted
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DNA translocation through grapheme nanopores CHRISTOPHER A. MERCHANT, University of Pennsylvania, KEN HEALY, MENI WANUNU, VISHVA RAY, NEIL PETERMAN, JOHN BARTEL, MICHAEL D. FISCHBEIN, KIM VENTA, ZHENG TANG LUO, A.T. CHARLIE JOHNSON, MARIJA DRNDIC — We report on DNA translocations through nanopores created in graphene membranes. Devices consist of nanometer-thick graphene membranes with electron-beam sculpted nanopores. Due to the thin nature of the graphene membranes, we observe larger blocked currents than for traditional solid-state nanopores. Unlike traditional solid-state nanopore materials that are insulating, graphene is an excellent electrical conductor. Use of graphene as a membrane material opens the door to a new class of nanopore devices in which electronic sensing and control are performed directly at the pore.

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