

Abstract Submitted
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WS2 nanopores for molecule analysis¹ GOPINATH DANDA, PAUL MASIH DAS, YUNG-CHIEN CHOU, JEROME MLACK, CARL NAYLOR, University of Pennsylvania, NESTOR PEREA-LOPEZ, ZHONG LIN, Penn State University, LAURA BETH FULTON, University of Pennsylvania, MAURICIO TERRONES, Penn State University, A. T. CHARLIE JOHNSON, MARIJA DRNDIC, University of Pennsylvania — Atomically thin 2D materials like graphene and transition metal dichalcogenides (TMDs) are interesting as membranes in solid state nanopore sensors for DNA analysis as they may facilitate single base resolution sequencing. These materials also exhibit unique optical and electronic properties which may be exploited to enhance the functionality of nanopore sensors. Here, we report WS2 nanopores, fabricated using a focused TEM beam. We also report their controlled laser-induced expansion in ionic solution. This study demonstrates the possibility of dynamic control of nanopore characteristics optically.

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