Abstract Submitted
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Fabrication of Atomically Layered Material Heterostructures of WSe2 and hBN[1] YAFANG YANG, HUGH CHURCHILL, BRITT BAUGHER, JAVIER SANCHEZ-YAMAGISHI, PABLO JARILLO-HERRERO, Massachusetts Institute of Technology — We discuss fabrication methods for hBN-WSe2-hBN heterostructures designed to create high quality and high mobility monolayer WSe2 devices by encapsulating the WSe2 in a relatively clean and impurity-free environment. We use a release polymer to pick up hBN and WSe2 from a SiO2 substrate, and transfer the stack onto another pre-cleaned hBN flake. In this way the WSe2 channel is protected from resist residue by hBN above and below, and thus stays pristine and clean. Various fabrication strategies will be discussed, including a comparison of MMA and PPC as release polymers. We characterize the performance of these devices with electrical transport measurements.

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