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**Transport measurements on monolayer and few-layer WSe<sub>2</sub>**

TAUNO PALOMAKI, WENJIN ZHAO, JOE FINNEY, ZAIYAO FEI, PAUL NGUYEN, FRANK MCKAY, DAVID COBDEN, University of Washington — The behavior of the electrical contacts often dominates transport measurements in mono and few-layer transition metal dichalcogenide (TMD) devices. Creating good contacts for some TMDs is particularly challenging since the fabrication procedure should prevent the TMD from oxidizing or chemically interacting with the contacts. In this talk, we discuss our progress on creating mono and few-layer WSe<sub>2</sub> devices with both good electrical contacts and minimal effects from the substrate, polymer contamination, oxidation and other chemistry. For example, we have developed a technique for encapsulating metallic contacts and WSe<sub>2</sub> flakes together in hexagonal boron nitride with multiple gates to separate and control the contributions from the channel and the Schottky barriers at the contacts. Research supported in part by Samsung GRO grant US 040814

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