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Transport Measurements of Multi-terminal MoS₂ Devices Y. YANG, H.O.H. CHURCHILL, B.W.H. BAUGHER, P. JARILLO-HERRERO, Massachusetts Institute of Technology — We report progress on the fabrication and measurement of multi-terminal devices based on few-layer MoS₂. By using different contact metal recipes, we describe efforts to significantly decrease contact resistance and gain access to the intrinsic transport properties of MoS₂. We measured four-terminal resistance of monolayer, bilayer, and trilayer MoS₂ with Ohmic contacts to obtain the intrinsic field-effect mobility of these materials on SiO₂ substrates at temperatures down to 4 K. We also probed Hall transport of MoS₂ and extracted the temperature dependence of its Hall mobility.

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