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Voltage controlled optics of a monolayer semiconductor quantum emitter CHITRALEEMA CHAKRABORTY, KENNETH GOODFELLOW, LAURA KINNISCHTZKE, NICK VAMIVAKAS, University of Rochester, UNIVERSITY OF ROCHESTER TEAM — Two-dimensional atomically thin materials are being actively investigated for next generation optoelectronic devices. Particularly exciting are transition metal dichalcogenides (TMDC) since these materials exhibit a band gap, and support valley specific exciton mediated optical transitions. In this work we report the observation of single photon emission in the TMDC tungsten diselenide. We present magneto-optical spectroscopy results and demonstrate voltage controlled photoluminescence of these localized quantum emitters.

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