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Effects of metal contact on 2D semiconductors XIAOPING HONG, SUFEI SHI, JONGHWAN KIM, YINGHUI SUN, FENG WANG, Univ of California - Berkeley — Thin layers of transition metal dichalcogenides (TMD) such as MoS2 have recently attracted intense interest in both fundamental research and electronic and optoelectronic applications. As atomically thin semiconductors the electronic and optical properties of single layer TMDs are greatly sensitive to their metal contacts. We use optical method to characterize the effects of metal contact on single layer MoS2, which provides valuable information about how to improve the performance of MoS2 based devices. Also it sheds light on possible manipulation of excitons in atomically thin TMDs through their metallic environment.

Xiaoping Hong
Univ of California - Berkeley

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