

Abstract Submitted  
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**Photo-induced Modulation Doping in Graphene/Boron Nitride Heterostructures** SALMAN KAHN, JAIRO VELASCO JR, LONG JU, EDWIN HWANG, CASEY NOSIGLIA, HSIN ZON TSAI, Department of Physics, University of California, Berkeley, WEI YANG, Beijing National Laboratory for Condensed Matter Physics and Institute of Physics, TAKASHI TANIGUCHI, KENJI WATANABE, Advanced Materials Laboratory, National Institute for Materials Science, DILLON WONG, YANG WANG, JUWON LEE, Department of Physics, University of California, Berkeley, YUANBO ZHANG, State Key Laboratory of Surface Physics and Department of Physics, GUANGYU ZHANG, Beijing National Laboratory for Condensed Matter Physics and Institute of Physics, MICHAEL CROMMIE, ALEX ZETTL, FENG WANG, Department of Physics, University of California, Berkeley — Van der Waals heterostructures (VDH) allow a modular platform for materials engineering, where various layered materials with different electrical, optical, and mechanical properties can be stacked together to enable new physics and novel functionalities. To create various VDH, we have employed a “stamping transfer” [1] in which two layered materials are exfoliated on separate substrates and then stamped onto each other. Several distinct VDH structures have been realized and characterized through scanned probe and optical measurement schemes. I will discuss recent progress made on these efforts, with an emphasis on optoelectronic measurements of a Graphene/Boron Nitride VDH.

[1] Zomer, P. J. and Dash, S. P. and Tombros, N. and van Wees, B. J., Applied Physics Letters, 99, 232104 (2011)

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