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Electronic properties of functionalized MoS_2 JYOTI KATOCH, Department of Physics and Nanoscience Technology Center, University of Central Florida, Orlando, FL, SIMRANJEET SINGH, DUY LE, Department of Physics, University of Central Florida, Orlando, FL, DANIEL CHENET, AREND VAN DER ZANDE, JAMES HONE, Department of Mechanical Engineering, Columbia University, New York, TALAT RAHMAN, Department of Physics, University of Central Florida, Orlando, FL, LAURENE TETARD, Nanoscience Technology Center, University of Central Florida, Orlando, FL, MASAHIRO ISHIGAMI, Department of Physics and Nanoscience Technology Center, University of Central Florida, Orlando, FL — We have measured the impact of ad-atoms on MoS_2 using photoluminescence (PL) and Raman spectroscopy. We find that ad-atoms induce a new peak in the PL spectra, indicating that excitons are bound at the ad-atom sites. Our results will be discussed in light of recent density functional theory calculations.

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