

Abstract Submitted  
for the TSF15 Meeting of  
The American Physical Society

**Chemical Mapping of CuPc on MoS<sub>2</sub> using Tip-Enhanced Raman Scattering** ZHE HE, Texas AM University, DMITRI VORONINE, Texas AM University, Baylor University, ALEXANDER SINYUKOV, Texas AM University, ZACHARY LIEGE, BLAKE BIRMINGHAM, KHOBY MOORE, KEN PARK, ZHENRONG ZHANG, Baylor University, ALEXEI SOKOLOV, Texas AM University, Baylor University, ALEKSEY AKIMOV, Texas AM University, MARLAN SCULLY, Texas AM University, Baylor University, Princeton University — Enhanced Raman spectroscopies have been widely used for chemical analysis. In surface enhanced Raman scattering (SERS) and tip enhanced Raman scattering (TERS) noble metals such as gold and silver are usually the best substrates with largest Raman enhancement due to strong electromagnetic mechanisms. On the other hand, semiconductor substrates give Raman enhancement based on the chemical mechanism. Here both SERS and TERS are applied to copper phthalocyanine (CuPc) molecules on bulk MoS<sub>2</sub> substrate. We observe shift of the hot spots as a response of the sample to the TERS tip. The combination of SERS and TERS on MoS<sub>2</sub> may be applied in chemical analysis of 2D materials and bio-sensing.

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Date submitted: 09 Oct 2015

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