

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Phonon dephasing in Monolayer MoS₂ LIUYANG SUN, KHA TRAN, Department of Physics, University of Texas at Austin, SEBASTIAN ROESCH, Department of Physics, University of Tbingen, EDUARDO PRIEGO, Department of Physics, University of Texas at Austin, GALAN MOODY, National Institute of Standards and Technology, JUNHO CHOI, Department of Physics, University of Texas at Austin, YU-MING CHANG, Center for Condensed Matter Sciences, National Taiwan University, KEVIN SILVERMAN, RICHARD MIRIN, National Institute of Standards and Technology, XIAOQIN LI, Department of Physics, University of Texas at Austin — Phonons are coordinated lattice vibrations, the study of which is important for understanding optical, electrical, and thermal properties of materials. Raman spectroscopy has been applied extensively to investigate phonon modes in atomically transition metal dichalcogenides such as monolayer MoS₂. In this work, we demonstrate that the linewidth of the Stokes peak does not represent intrinsic phonon dephasing times. We report phonon dephasing times in monolayer and bulk MoS₂ at both room temperature and low temperatures.

Liuyang Sun
Department of Physics, University of Texas at Austin

Date submitted: 11 Nov 2016

Electronic form version 1.4