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**Temperature Dependence of the Raman Spectra of CVD-grown Monolayer MoS<sub>2</sub>** A. GLEN BIRDWELL, FRANK J. CROWNE, TERRANCE P. O'REGAN, PANKAJ B. SHAH, MADAN DUBEY, U.S. Army Research Laboratory, Sensors and Electron Devices Directorate, 2800 Powder Mill Rd, Adelphi, MD 20783, USA, SINA NAJMAEI, ZHENG LIU, PULICKEL M. AJAYAN, JUN LOU, Department of Mechanical Engineering and Materials Science, Rice University, Houston, TX 77005, USA, RUSEN YAN, HUILI GRACE XING, Department of Electrical Engineering, University of Notre Dame, Notre Dame, IN 46556, USA — We investigated the temperature dependence of the E<sub>2g</sub><sup>1</sup> and A<sub>1g</sub> peaks in the Raman spectra of monolayer MoS<sub>2</sub> grown by chemical vapor deposition (CVD) on Si/SiO<sub>2</sub> substrates. Micro-Raman spectroscopy was carried out using the 532 nm laser excitation over the temperature range from 30 to 175 °C. The extracted values of the temperature coefficient of these modes are  $\chi = -0.013 \text{ cm}^{-1}/^{\circ}\text{C}$  and  $\chi = -0.016 \text{ cm}^{-1}/^{\circ}\text{C}$ , respectively. The obtained results may shed light on the anomalous behavior of these modes observed in laser power dependent studies of monolayer MoS<sub>2</sub>.

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