

Nano-Raman Analysis of Nanoprotuberances in MoSe₂ deposited on hBN substrate

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Abstract

Nanoprotuberances can emerge during the fabrication of heterostructures and affect the physical-chemistry properties of a material. We have examined their impact on a monolayer MoSe₂ deposited on hBN using a dry stamping technique [1]. The selected regions, where these formations range from 50 to 200 nm in diameter and reach an average height of about 15 nm, were investigated through atomic force microscopy (AFM) mapping and tip-enhanced Raman spectroscopy (TERS) [2]. By correlating topographical features with spectroscopic variations at the nanoscale and performing a statistical analysis of the nanostructures, changes in local chemical composition were observed (see fig.1), associated with contamination or trapped gases.

References

- [1] H. Naito et al. *Nanoscale Advances* 5.18 (2023) 5115-5121.
[2] A. Jorio et al. *2D Materials* 11.3 (2024): 033003.

Figures

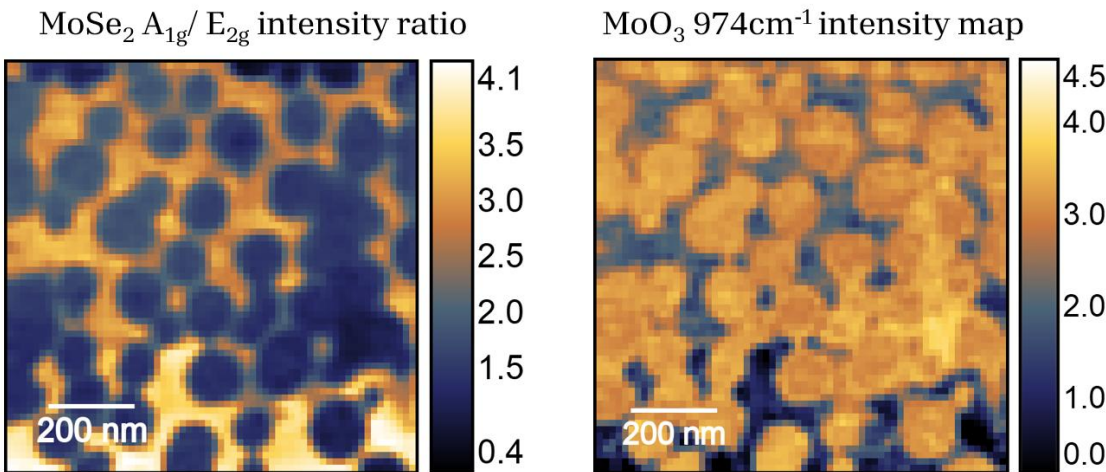


Figure 1: Insert caption to place caption below figure (Century Gothic 10)