

Abstract Submitted
for the TSF10 Meeting of
The American Physical Society

Structure of MoS₂ Plates as Revealed by High Resolution Electron Microscopic Techniques CARLOS CASTRO GUERRERO, LEONARD DEEPAK¹, MIGUEL JOSE-YACAMAN, University of Texas at San Antonio — Molybdenum disulfide (MoS₂) is a compound found in nature as molybdenite, natural MoS₂ has a hexagonal crystal form. MoS₂ is a compound very useful for its properties; it is used as lubricant, catalyst in hydrodesulfuration, in hydrogen fuel storage, etc. Currently, researchers are synthesizing MoS₂ with new shapes and MoS₂ nanoparticles. In this work MoS₂ nanohexagonal plates were synthesized at different temperatures and characterized with XRD, SEM, Raman spectroscopy and HRTEM. This compound has a plate size of 20–30 nm as revealed by SEM, with HRTEM was possible to measure the interatomic distance of Mo–Mo, which was 2.8 Å. This compound is intended to be used as catalyst in fuel hydrodesulfuration.

¹International Iberian Nanotechnology Laboratory

Carlos Castro Guerrero

Date submitted: 24 Sep 2010

Electronic form version 1.4