

Electronic superlattice modulations in electron-doped molybdenum disulfide

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Crystals that confine charge carriers to two-dimensions exhibit a rich diversity of electronic phases. Transition metal dichalcogenide (TMD) materials present unique opportunities to investigate these phases due to the broad scope of their chemical and physical tailorability. Here, we present low temperature scanning tunnelling microscopy and spectroscopy measurements of the surface of highly electron-doped molybdenum disulfide. We observe superlattice modulations superimposed on the 1x1 sulfur lattice, and we interpret this data within the existing literature of charge density wave modulations in TMD materials.