

Structural and Electronic Properties of 2D Layered Metal Dichalcogenides

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Abstract:

2D-layered metal dichalcogenides are of great interest because of its novel physical properties similar to the graphene. The spectroscopic fingerprints of 2D-SnS₂ composed by doping of different elements are studied in this work for understanding the consequence of carrier dynamics. Its an attempt to probing and tailoring the spin and electron dynamics in 2D layered materials. Here we show that V doped SnS₂ sample occupies the interstitial interlayer position at the van der Waals gap in 2D SnS₂. The observed additional feature during the Fourier transformation suggest that V doped SnS₂ sample exhibit that 1s to 5p transition distributed over the layered SnS₆ octahedral site. Similar change is observed for at the Sn L edge and S K edge also for the V doped SnS₂ sample.

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