

Abstract Submitted
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Charge Density Waves in Single- and Bi-layer Bismuth Deposited on NbSe₂¹ CAROLINA ADAMO, ALAN FANG, Stanford University, ROBERT CAVA, Princeton University, AHARON KAPITULNIK, Stanford University — A connected low-temperature scanning tunneling (STM) and a molecular-beam epitaxy (MBE) chambers have been used to measure ultra thin films of bismuth (Bi) on NbSe₂ single crystals. Due to large lattice mismatch between NbSe₂ and Bi we observed two different lattice structures; when a single ML of Bi is deposited a triangular lattice commensurate with the cleaved NbSe₂ is seen and 1D charge density waves (CDW) pattern is observed. Instead for thickness bigger than 1 ML, the topography shows a structure corresponding to (110) Bi oriented film, which also exhibits both 2D and 1D CDW order.

¹DOE and SIMES

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