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【652】 Thickness dependence of the charge density wave order parameter in thin exfoliated 1T-VSe₂

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We present a detailed scanning tunneling microscopy (STM) study of the thickness and temperature dependences of the CDW order parameter in 1T-VSe₂. We show that mapping the real-space charge order over a broad and well-characterized thickness range, unique to STM, provides essential insight. We introduce a robust derivation of the local order parameter and transition temperature based on the real space charge modulation amplitude measured by STM. Both quantities exhibit a striking non-monotonic thickness dependence that we explain in terms of a 3D to 2D dimensional crossover in the Fermi surface topology. This finding highlights thickness as a true tuning parameter of the electronic ground state.

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