

Abstract Submitted
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STM Studies of the CDW System TbTe_3 ALAN FANG, ZHANYBEK ALPICH SHEV, NANCY RU, IAN FISHER, AHARON KAPITULNIK, Stanford University — We present STM data on the Charge Density Wave (CDW) in the Rare Earth Tri-Telluride TbTe_3 . Topography scans as large as $250 \times 250 \text{ \AA}^2$ were taken with voltage bias as high as 0.8 Volt. Fourier analysis shows an incommensurate unidirectional modulation with wave-vector $q \approx 0.71 \text{ a}^*$. The topographic scans at different bias voltages are used to highlight the difference in structure of the CDW and lattice period-doubling effects, either from the Te-Te dimerization, or from the Te-Tb layer directly below the surface.

Alan Fang
Stanford University

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