

Abstract Submitted
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Raman scattering evidence for a cascade-like evolution of the charge-density-wave collective amplitude mode M. LAVAGNINI, ETH Zurich, H.-M. EITER, L. TASSINI, B. MUSCHLER, R. HACKL, WMI Garching, R. MONNIER, ETH Zurich, J.-H. CHU, I.R. FISHER, Stanford University, L. DEGIORGI, ETH Zurich — The two-dimensional rare-earth tri-tellurides undergo a unidirectional charge-density-wave (CDW) transition at high temperature and, for the heaviest members of the series, a bidirectional one at low temperature. Raman scattering experiments as a function of temperature on DyTe₃ and on LaTe₃ at 6 GPa provide a clear-cut evidence for the emergence of the respective collective CDW amplitude excitations. In the unidirectional CDW phase, we surprisingly discover that the amplitude mode develops as a succession of two mean-field, BCS-like transitions in different temperature ranges.

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