

Abstract Submitted
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A time-resolved observation of collective phenomena in the CDW compound TbTe₃¹ F. SCHMITT, Stanford University, P. S. KIRCHMANN, U. BOVENSIEPEN, F. U. Berlin, R. G. MOORE, SSRL, L. RETTIG, M. KRENZ, F. U. Berlin, J.-H. CHU, N. RU, Stanford University, L. PERFETTI, F. U. Berlin, D.-H. LU, SSRL, M. WOLF, F. U. Berlin, I. FISHER, Z.-X. SHEN, Stanford University — Strong correlations and collective phenomena in solids are a fascinating and challenging area of physics. Understanding how the interactions between the constituents give rise to collective phenomena like phase transitions and collective modes will greatly enhance our understanding in solid state physics. One such system, the Rare Earth Tritelluride RTe₃, is an excellent model system for a systematic study of charge-density wave (CDW) physics. We have performed time-resolved angle-resolved photoelectron spectroscopy (trARPES), a novel form of pump-probe spectroscopy, on TbTe₃ and we will present our newest results. We observe two collective modes and what we term the time-dependent melting of the CDW, which we discussed earlier². Here, we will focus primarily on the detailed properties of the two collective modes.

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²F. Schmitt et al., Science **321**, 1649-1652 (2008)

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