

Abstract Submitted
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Gap Dynamics in TiSe₂¹ MAXIMILIAN HUBER, YI LIN, Materials Science Division, Lawrence Berkeley National Laboratory, ROBERT KAINDL, Physics, Arizona State University, ALESSANDRA LANZARA, Physics, UC Berkeley — TiSe₂ is an intriguing material that hosts a charge density wave (CDW) phase below 200K in the absence of the prototypical Fermi surface nesting and that becomes superconducting at elevated pressures or by Cu doping. The key to understand the emergence of such correlated behavior is the order parameter, which can be directly accessed by measuring the CDW gap. Here we use time and angular resolved photoelectron spectroscopy (trARPES) to perturb the CDW phase in TiSe₂ and follow the quench and recovery of the order parameter. The fluence dependence of the gap is discussed and its implication for the CDW formation mechanism are presented.

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