

Abstract Submitted
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Probing Charge Density Wave Dynamics using Coherent X-ray Scattering A. PALMER, T.F. ROSENBAUM, Univ of Chicago, YEJUN FENG, A. SANDY, Argonne National Laboratory — X-ray photon correlation spectroscopy (XPCS) is a coherent x-ray scattering technique able to detect equilibrium fluctuations of ordered states. We examine the equilibrium fluctuations of the two-dimensional incommensurate charge density wave in NbSe₂ at the thermal approach to the transition from below. The temporal correlation of these fluctuations contains information about CDW dynamics. The CDW scattering intensity in this experiment is much lower than traditional XPCS measurements, necessitating the development of a new methodology to extract dynamics information from weak scattering signals. Generalization of this method may make possible the extraction of scaling relations near quantum critical points.

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