

Abstract Submitted
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STM sub-gap structure in cuprates is a consequence of density waves, according to Mean-Field Theory and CDMFT¹ SIMON VERRET, Université de Sherbrooke, JYOTIRMOY ROY, TIFR Mumbai India, DAVID SÉNÉCHAL, A.-M. S. TREMBLAY, Université de Sherbrooke — Much work has been done to find how the pseudogap is related to charge density waves in cuprates. In scanning tunneling microscopy (STM) measurements, the superconducting gap and pseudogap of cuprates are sometimes accompanied by a small *sub-gap structure* at very low energy. This was documented early in vortex cores studies, and has now been reported at zero field for YBCO.⁽¹⁾ Here, we show that this can be caused by density waves, first through a standard mean-field approach, and then with Cellular Dynamical Mean-Field Theory for the Hubbard model using an exact diagonalization solver. We comment on the implication of these results for the relation between pseudogap and charge order.

(1) Jens Bruér et al. arXiv:1507.06775

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