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Charge order instabilities in the t-J model ANDREA ALLAIS, JOHANNES BAUER, SUBIR SACHDEV, Harvard Univ — Motivated by the observation of incommensurate charge order in the pseudogap phase of the cuprates, most notably in a series of recent experiments on YBCO, we explore the occurrence of charge-ordering instabilities in an extended t-J model. We allow for on site and bond ordering, with arbitrary ordering wavevector and a number of possible internal wavefunctions. Our results are obtained by a combination of slave boson mean field theory, dynamical mean field theory and variational Monte Carlo. We find instability towards several possible ordering patterns, depending on the choice of parameters.

Andrea Allais
Harvard Univ

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