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Charge order phase diagrams of hole-doped cuprates ROBERT MARKIEWICZ, Northeastern University, JOSE LORENZANA, U Rome, La Sapienza, GOETZ SEIBOLD, U. Cottbus, ARUN BANSIL, Northeastern University — "Stripe"-like phases in the cuprates can be dominated by either spin or charge fluctuations. We calculate the phase diagram of charge-order phases stabilized by a lattice distortion using Gutzwiller approximation (GA) + RPA, and compare it to the magnetic phase diagrams [1]. The stripe periodicity is determined by Fermi surface [double] nesting, and hence is very similar for charge or magnetic stripes. A detailed analysis of the susceptibility reveals that the leading charge instability in Bi2201 and Bi2212 is an electronically driven phonon soft mode associated with a "Pomeranchuk wave." This instability has the pseudogap doping dependence and shares many properties with the phase seen in scanning tunneling microscopy (STM) Work supported in part by the USDOE and by a Marie Curie Grant.

[1] R.S. Markiewicz *et al.*, Phys. Rev. B**81**, 014509 (2010).

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