Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Collective modes in the hot spot model of cuprates[1] VALENTIN STANEV, ZACH RAINES, VICTOR GALITSKI, Univ of Maryland-College Park — We study the collective modes of the possible order parameters of cuprate high-temperature superconductors. Observing and analyzing these modes provide insights into the nature of the ordered state. Using the hot spot model of cuprates, we explore the amplitude oscillations of both charge density wave (CDW) and superconducting states. Especially interesting is the region, in which CDW and superconductivity coexist, and in which the two amplitude oscillations become mixed in a single mode with energy inside the single-particle gap. We compare these results with the recent data extracted from reflectivity measurements.

[1]Work supported by DOE-BES (DESC0001911) and Simons Foundation.

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Date submitted: 14 Nov 2014 Electronic form version 1.4