

Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Electron-phonon interaction close to a Mott transition GIORGIO SANGIOVANNI, MASSIMO CAPONE, CLAUDIO CASTELLANI, MARCO GRILLI, Università di Roma “La Sapienza” — The effect of Holstein electron-phonon interaction on a Hubbard model close to a Mott-Hubbard transition at half-filling is investigated by means of Dynamical Mean-Field Theory. We observe a reduction of the effective mass that we interpret in terms of a reduced effective repulsion. When the repulsion is rescaled to take into account this effect, the quasiparticle low-energy features are unaffected by the electron-phonon interaction. Phonon features are only observed within the high-energy Hubbard bands. The lack of electron-phonon fingerprints in the quasiparticle physics can be explained interpreting the quasiparticle motion in terms of rare fast processes.

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Date submitted: 21 Dec 2004

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