

Charge fluctuations and superconductivity in strongly correlated electronic systems

Monday, 24 October 2022 19:05 (5 minutes)

We investigate electronic spectrum and superconductivity in the extended t - J - V model where the inter-site Coulomb repulsion and the electron-phonon interaction (EPI) are taken into account. The exact Dyson equation for the normal and anomalous (pair) Green functions (GFs) is derived for the projected Hubbard operator. The equation is found in the self-consistent Born approximation (SCBA) for the self-energy. We show that, the most important contribution comes from the kinematic interaction for HOs which results in a strong coupling of electrons with spin fluctuations (SFs) of the order of the hopping parameter $t(q)$ much larger than the exchange interaction $J(q)$.

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