

THE ELECTRON DENSITY OF STATES FOR HIGH TEMPERATURE SUPERCONDUCTORS

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ABSTRACT

The evaluation of one electron thermodynamic Green's functions using the equation of motion technique of quantum dynamics via newly formulated Hamiltonian and using Dyson's equation approach. This involves approximation free approach and different Cooper pairs are emerged automatically in the system and stands as an *ab-initio* approach. The detailed description of enhancement in the electron density of states (EDOS) for high temperature superconductors has been investigated. The investigated expressions of EDOS in the new framework are found responsible to describe a large number of dynamical properties of high temperature superconductors. The temperature dependence of EDOS has been found as a unique feature of the theory, which certainly becomes the outcome of the anharmonic interactions. The presence of electron-phonon interaction parameter in each term is an additional and new feature of the theory.

Key words: EDOS, Hamiltonian, Electron Green's Function

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