SUPERCONDUCTIVITY IN THE PSEUDOSPIN-ELECTRON MODEL

T.S. Mysakovych, I.V. Stasyuk

Institute for Condensed Systems Physics,
Nat. Acad. Sci. of Ukraine
(*1, Sventsits'kogo Str., L'viv 79011, Ukraine;*
e-mail: mtaras@icmp.lviv.ua)

S u m m a r y

The static susceptibility in the superconducting channel is investigated for the locally anharmonic crystalline systems with strong electron correlations within the framework of the pseudospin-electron model with the tunnel splitting of levels, in the limit of weak pseudospin-electron interaction. In the $\mu = \text{const}$ regime, when the chemical potential is located near the band center, the system undergoes a phase transition to the phase with a modulation of the lattice period. The transition to the superconducting state is revealed for a non-half filling of the band and for the case of the nonzero tunnel frequency Ω. The influence of the tunnel splitting on the phase transitions is investigated as well.