TRANSVERSE COLLECTIVE DYNAMICS OF IONS IN STRONGLY COUPLED YUKAWA PLASMAS. SELF-CONSISTENT RELAXATION THEORY

Fairushin I.I., * *Mokshin A.V.*

KFU, Kazan, Russia
**fairushin_ilnaz@mail.ru*

Within the modified self-consistent relaxation theory for the Yukawa liquid under the intermediate screening regimes and near the melting curve, analytical expressions describing the spectra of transverse collective excitations and the corresponding dispersion characteristics are obtained. Using the developed theoretical formalism for the considered thermodynamic states, the conditions for the existence of quasi-solid-state collective excitations and the spatial scales of their transition to the dynamics of a conventional equilibrium liquid are described.