

LIMITING BEHAVIOR OF THE KINETIC THEORY
FOR SYSTEMS WITH MULTISTEP INTERACTION

Y.A. Humenyuk¹, M.V. Tokarchuk^{1,2}

¹Institute for Condensed Matter Physics,
Nat. Acad. of Sci. of Ukraine
(1, *Sviatsitskii Str.*, Lviv 79011, Ukraine;
e-mail: josyp@ph.icmp.lviv.ua),

²National University "Lvivska Politekhnikha"
(12, *Bandera Str.*, Lviv 79013, Ukraine;
e-mail: mtok@ph.icmp.lviv.ua)

S u m m a r y

The kinetic theory of mixtures with a multistep potential (MSP) is considered. A passage to the limit of the smooth continuous potential for the kinetic equation and the potential energy density balance equation is analyzed. When the "hard spheres + soft tail" form for the limiting potential is chosen, the kinetic equation reduces to that of the kinetic variational theory (KVT), while the limiting balance equation for the kinetic energy density differs from its KVT counterpart.