

CELLULAR STRUCTURES IN A SYSTEM
OF INTERACTING PARTICLES

B.I. Lev

Bogolyubov Institute for Theoretical Physics,
Nat. Acad. of Sci. of Ukraine
(14b, Metrolohichna Str., Kyiv 03143, Ukraine),
Institute of Physics, Nat. Acad. of Sci. of Ukraine
(46, Prosp. Nauky, Kyiv 03039, Ukraine)

S u m m a r y

The general description of the formation of a cellular structure in the system of interacting particles is proposed. The analytical results for possible cellular structures in the usual colloidal systems, systems of particles immersed in a liquid crystal, and gravitational systems have been presented. It is shown that the formation of a cellular structure in all systems of interacting particles at different temperatures and concentrations of particles has the same physical nature.