A kinetic approach to the propagation of disturbances in liquids
FRANCESCO TEODORI[1], VINCENZO MOLINARI, DOMIZIANO MOSTACCI,
MARCO SUMINI, Laborotorio di Montecuccolino, DIENCA, Universit di Bologna
— Intermolecular forces play a key role in the propagation of disturbances in liquids. The details of interaction are best accounted for in the framework of the Kinetic Theory. In this work, the propagation of disturbances is investigated from the point of view of Kinetic Theory: starting from the Vlasov equation, the self-consistent field is calculated for intermolecular forces and a form of wave equation is obtained, where the dispersion relation depends on the type of intermolecular interaction considered. A criterium is found to establish whether or not a disturbance can propagate, criterium which again depends on the details of the interaction.

[1]presenting author

Domiziano Mostacci
University of Bologna