Molecular Dynamics Simulations of Vodka

Consiglio Armando
armconsiglio@gmail.com

Alma Mater Studiorum - University of Bologna

Scientific supervisor: Prof. Andrei V. Komolkin, Department of Nuclear Physics Research Methods, V. A. Fock Institute of Physics, Saint Petersburg State University

Since the first computer simulation of liquid, carried out more than 60 years ago in the Los Alamos National Laboratories, a lot of analysis of physical systems have been successfully done by means of computer. This is also due to the increasing power of hardware, following the Moore's Law.
By Molecular Dynamics (MD) we mean therefore the description of a many-body system, described by the numerical solutions of classical Newton's equations, obtained through computational algorithms.
During the report I will present some ideas related to MD, talking about the theoretical background and the first steps necessary to run and analyze a simulation, and introducing also some results obtained with vodka.