Molecular simulation of sound propagation TAKERU YANO, Osaka University — Numerical simulation of molecular dynamics of sound propagation in a gas is carried out to clarify the propagation property of sound waves with large amplitude and very high frequency. Assuming the Lennard–Jones inter-molecular potential, we calculate the motions of hundreds of thousand of monatomic molecules excited by an oscillating plate in a gas phase. The result is compared with corresponding numerical solutions of model Boltzmann equation and Navier–Stokes equations.