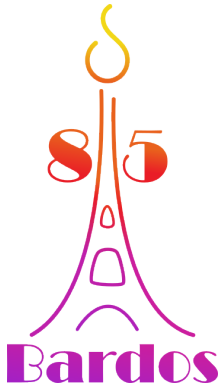
Kinetic equations and turbulence

Cluster Dynamics for the Boltzmann Equation

Sergio Simonella

Cluster dynamics is the property of systems of infinitely many particles of being decomposed onto finite clusters which move independently during a random interval of time. In this talk, we will discuss how to obtain the limiting cluster process, for a system of hard spheres in the limit of low density. This complements the Boltzmann equation with detailed information on correlations and fluctuations. Moreover, it provides an approach to the problem of the mathematical validity, alternative to the traditional one based on the hierarchy. Funded by the European Union (ERC CoG KiLiM, 101125162).



In honor of Claude Bardos's 85th birthday