

# ***Seminar 2022***

## **Math**

### Relativistic kinetic theory of gases

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**Abstract:** The kinetic theory of gases is a theoretical model that explains the dynamics of a gas in which it is represented as a collection of molecules. For classical particles, the phase space is usually considered as a Cartesian product of three-dimensional position space with three-dimensional velocity space. But when it comes to particles whose speeds are comparable to the speed of light, the Minkowski space is used instead to take into account the relativistic effects. In this talk, we introduce such a framework for discussing the relativistic kinetic theory of gases. We first present a brief introduction to the Minkowski space. And then, we provide a standard approach to how to describe macroscopic quantities of a relativistic gas. Finally, the relativistic kinetic equations based on the BGK formulation will be introduced.



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