

Homoenergetic solutions of the Boltzmann equation

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In this talk I will consider a particular class of solutions of the Boltzmann equation, known as homoenergetic solutions, which are useful to describe the dynamics of Boltzmann gases under shear, expansion or compression in non-equilibrium situations. While their well-posedness theory has many similarities with the theory of homogeneous solutions of the Boltzmann equation, their long time asymptotics differs completely, due to the fact that these solutions describe far-from-equilibrium phenomena. Indeed, the long time asymptotics cannot always be described by Maxwellian distributions. I will describe different possible long time asymptotics of homoenergetic solutions of the Boltzmann equation, as well as some open problems in this direction. This is a joint work with R.D. James and J.J.L. Velázquez

REFERENCES

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