

Ion-acoustic shock in a collisional plasma

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报告摘要：This talk is concerned with the propagation of ion-acoustic shock waves in a collision dominated plasma. We firstly establish the existence and uniqueness of a small-amplitude smooth travelling wave, then justify its approximation to the shock profile of the KdV-Burgers equations in a suitable asymptotic regime where dissipation in terms of viscosity coefficient is much stronger than dispersion by the Debye length, and prove in the end the large time asymptotic stability of travelling waves under suitably small smooth perturbations.

报告人简介：

刘双乾，教授，2009年博士毕业于武汉大学。先后任职于暨南大学和华中师范大学。主要研究方向为动理学方程及其相关宏观模型的数学理论。研究成果发表在Communications on Pure and Applied Mathematics、Communications in Mathematical Physics、Archive for Rational and Mechanics and Analysis、SIAM Journal on Mathematical Analysis等杂志。

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西北大学数学学院
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