



偏微分方程及其应用中心

学术报告

报告题目: Solitary waves of the Vlasov-Poisson system

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摘要: We consider the Vlasov - Poisson system describing a two-species plasma with spatial dimension 1 and the velocity variable in \mathbb{R}^n . We find the necessary and sufficient conditions for the existence of solitary waves of the system. To this end, we need to investigate the distribution of ions trapped by the electrostatic potential. Furthermore, we classify completely in all possible cases whether or not the solitary wave is unique, when we exclude the variant caused by translation. There are both cases that it is unique and nonunique. This talk is based on a joint work with Professor M. Takayama (Keio Univ.) and Professor K. Z. Zhang (Northeastern Univ.).