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二粒子Boltzmann方程组的奇异扰动解法：初始层解

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On the Singular Perturbation Solution of Two-particle Boltzmann Equations: Initial Layer Solution

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摘要 本文讨论了二粒子Boltzmann方程组的初始层解. 为此先对未知变量进行了Fourier 变换, 然后运用奇异扰动解法得到了二粒子Boltzmann方程组的正规解和初始层解以及其初始层解的初级和高级近似, 并且得到了初始层解和正规解的连接.

关键词： 二粒子Boltzmann方程组   正规解   初始层解

Abstract： The initial layer solution of the Boltzmann Hierarchy for two-particles is discussed in this article. By using the method of The Singular Perturbation Solution, we formulate the Boltzmann Hierarchy with Fourier transform, and then get the normal solution and initial solution. In addition,the primary and high-order approximation of the initial layer solution is obtained and the connection between the normal solution and initial layer solution is given.

Key words： Boltzmann Hierarchy   normal solution   initial layer solution

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