数学与系统科学研究院

计算数学所网络学术报告

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报告题目：

Splitting methods for rotations: application to Vlasov equations

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报告时间：2020 年 12 月 9 日（周三）下午 16:30

报告工具：腾讯会议（ID：132 311 525）

摘要：

In this talk, a splitting strategy is introduced to approximate two-dimensional rotation motions. Unlike standard approaches based on directional splitting which usually lead to a wrong angular velocity and then to large error, the splitting studied here turns out to be exact in time. Combined with spectral methods, the so-obtained numerical method is able to capture the solution to the associated partial differential equation with a very high accuracy. I will briefly show that this exact splitting can be extended to quadratic PDEs. Then, the method is used to design highly accurate time integrators for Vlasov-Maxwell type equations. This is a joint work with Joackim Bernier (CNRS, University Nantes, France), Fernando Casas (University Jaume I, Spain) and Yingzhe Li (IPP Max Planck Institute, Germany).

欢迎大家参加！