数学与系统科学研究院

计算数学所网络学术报告

报告人： **Prof. Weizhu Bao**

（ *National University of Singapore* ）

报告题目：

Energy-stable parametric finite element methods (PFEM) for geometric PDEs and applications

邀请人： 明平兵 研究员

报告时间：**2020** 年 **11** 月 **19** 日（周四）

上午 **10:00-11:00**

报告工具：腾讯会议（**ID：195 355 527**）

Abstract:

In this talk, I begin with a review of different geometric flows (PDEs) including mean curvature (curve shortening) flow, surface diffusion flow, Willmore flow, etc., which arise from materials science, interface dynamics in multi-phase flows, biology membrane, computer graphics, geometry, etc. Different mathematical formulations and numerical methods for mean curvature flow are then discussed. In particular, an energy-stable semi-implicit parametric finite element method (PFEM) is presented in details. Then the PFEM is extended to surface diffusion flow. Finnally, sharp interface models and their PFEM approximations are presented for solid-state dewetting. This talk is based on joint works with Wei Jiang, Yan Wang, Quan Zhao, Yifei Li, David J. Srolovitz and Carl V. Thompson.

欢迎大家参加！