



## 复旦大学数学科学学院 数学综合报告会

报告题目: **Consistent traction boundary conditions for static nonlocal diffusion problems**

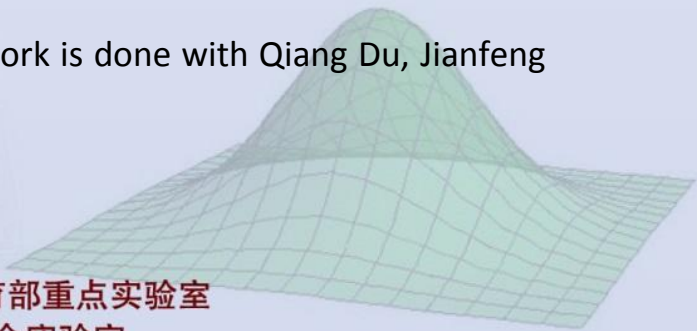
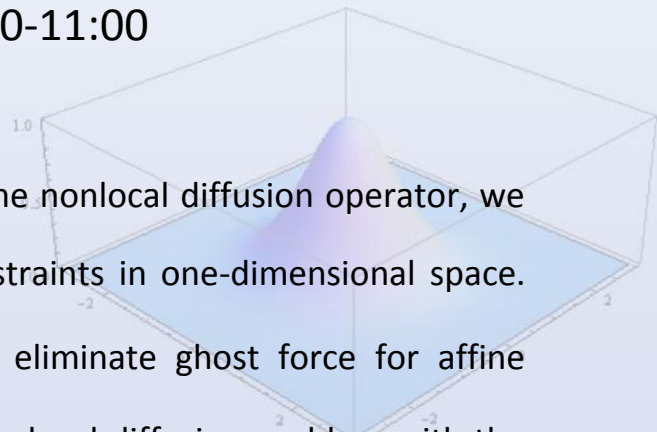
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报告时间: 2018-01-02 星期二 10:00-11:00

报告地点: 光华东主楼 1801

摘要: Based on a proper decomposition of the nonlocal diffusion operator, we systematically developed nonlocal traction constraints in one-dimensional space. This nonlocal traction constraint is proved to eliminate ghost force for affine deformations. We also proved that the static nonlocal diffusion problem with the proposed traction boundary conditions has  $O(\delta)$  modeling error, and converges to the local diffusion problem with classical Neumann boundary conditions as the horizon size  $\delta$  goes to zero. In addition, we conducted several numerical tests to confirm our theories. This work is done with Qiang Du, Jianfeng Lu and Xiaochuan Tian.



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