



## 复旦大学数学科学学院 数学综合报告会

报告题目: **Tensor Train Approximation for Solving Many-body Schrodinger Eigenvalue Problem**

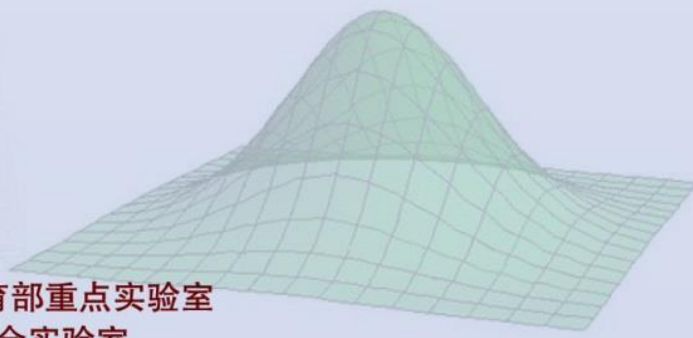
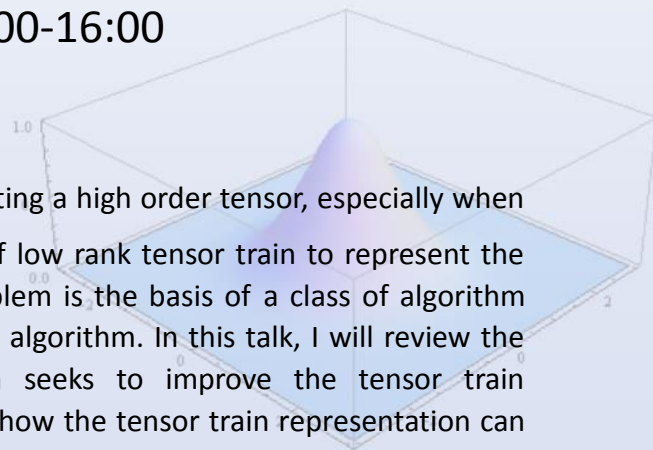
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报告时间: 2016-11-23 星期三 15:00-16:00

报告地点: 光华东主楼 1801

**摘要:** Tensor train is a compact format for representing a high order tensor, especially when the rank of the tensor train can be kept low. The use of low rank tensor train to represent the solution to the many-body Schrodinger eigenvalue problem is the basis of a class of algorithm called the density matrix renormalization group (DMRG) algorithm. In this talk, I will review the key computational aspects of this algorithm, which seeks to improve the tensor train approximation via a greedy approach. I will also discuss how the tensor train representation can be combined with more traditional iterative methods for solving the Schrodinger eigenvalue problem. The latter approach is more amenable to parallel computing and can take advantage of a vast amount of computational resource.



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