

数学与系统科学研究院

计算数学所学术报告

报告人: Assistant Prof. Garving Kevin Luli

(*Department of Mathematics, UC Davis*)

报告题目:

**Efficiently Finding (approximate)
Energy Minimizers without Solving
Differential Equations**

邀请人: 徐丽 博士

报告时间: 2015 年 5 月 27 日 (周三)

下午 15:00~16:00

报告地点: 科技综合楼三层

311 报告厅

Abstract:

Given an energy functional $E[F]$ (e.g., L^p norm of F), it is a classical problem in the calculus of variations to determine the minimizer of $E[F]$ subject to some constraint $F=f$ on a subset S of \mathbb{R}^n . If the set S is nice, then we can look for solution to the corresponding Euler-Lagrange's equation. However, when the set S is bad, this approach is not too fruitful. In this talk, we will explain how to directly construct (almost) minimizers of $E[F]$ subject to any constraint $F=f$ on any closed subset S of \mathbb{R}^n . In particular, we will see that if S consists of N (arbitrary) points in \mathbb{R}^n , then the work required to compute an (almost) minimize as well as the (almost) minimum energy is on the order of $N \log N$. This is joint work with C. Fefferman and A. Israel.

欢迎大家参加！