



## 复旦大学数学科学学院 数学综合报告会

### 系列报告之三

报告题目: **Boundedness of Riesz transforms on manifolds**

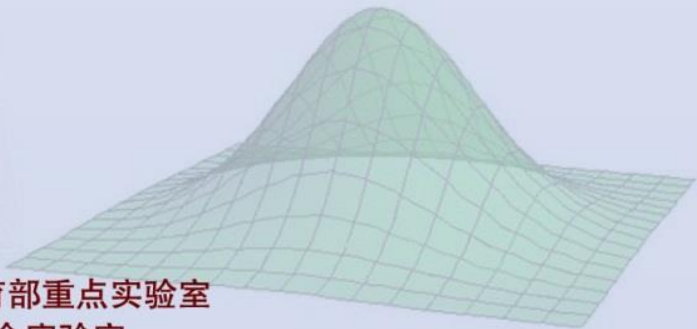
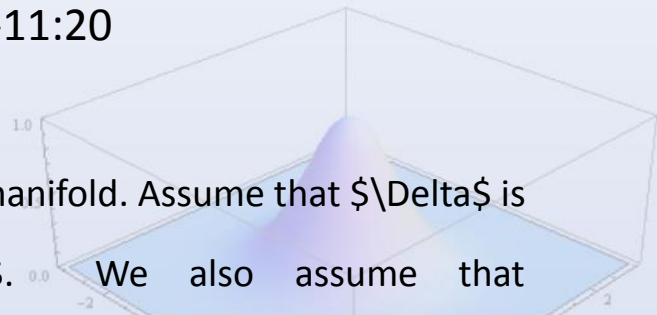
报告人: Prof. XuanThinh Duong

(Macquarie University)

报告时间: 2016-12-30 星期五 9:00-11:20

报告地点: 光华东主楼 1801

摘要: Let  $M$  be a doubling Riemannian manifold. Assume that  $\Delta$  is the Laplace-Beltrami operator on  $M$ . We also assume that  $\Delta$  generates a semigroup with Gaussian upper bound. Then the Riesz transform  $T = \nabla \Delta^{-1/2}$  (where  $\nabla$  is the Riemannian gradient) is bounded on  $L^2(M)$  and its kernel is non-smooth so that  $T$  does not belong to the class of Calderón-Zygmund operators. We will show that  $T$  is of weak type  $(1,1)$ , hence bounded on  $L^p(M)$  for  $1 < p \leq 2$ .



非线性数学模型与方法教育部重点实验室  
中法应用数学国际联合实验室  
上海市现代应用数学重点实验室  
复旦大学数学研究所