



复旦大学数学科学学院 数学综合报告会

报告题目: **A coupled physics inverse problem in electro-seismic imaging**

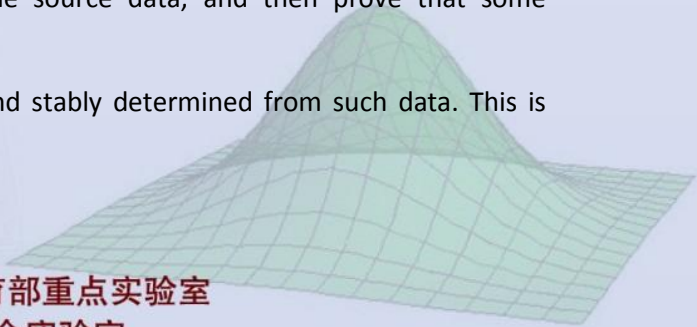
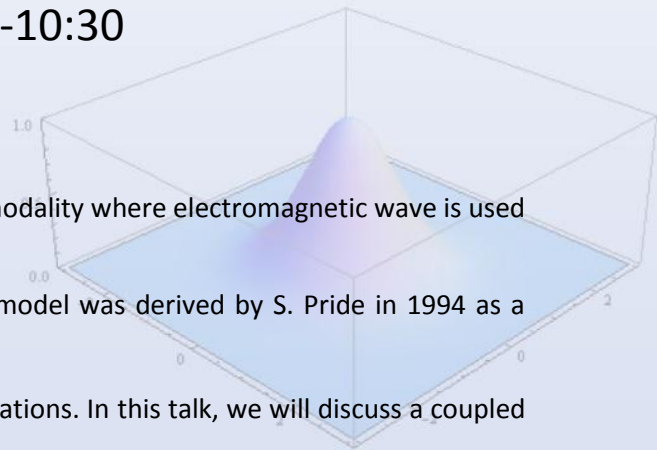
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报告时间: 2017-12-08 星期五 9:30-10:30

报告地点: 光华东主楼 1801

摘要: Electro-seismic imaging is a geophysical imaging modality where electromagnetic wave is used to induce seismic wave in porous media. The mathematical model was derived by S. Pride in 1994 as a coupled system of the Maxwell's equations and the Biot's equations. In this talk, we will discuss a coupled physics inverse problem arising in electro-seismic imaging. The problem consists of retrieval of source data in the Biot's equations and inversion of the Maxwell's equations from the internal measurement. We will describe a time reversal approach to reconstruct the source data, and then prove that some parameters in the Maxwell's equations can be uniquely and stably determined from such data. This is based on joint work with Jie Chen, Yixian Gao and Peijun Li.



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