

数学与系统科学研究院

计算数学所学术报告

报告人: **Prof. Jianliang Qian**

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报告题目:

**Adjoint state method for the
identification problem in
single-photon emission computerized
tomography (SPECT)**

邀请人: **陈冲 博士**

报告时间: **2015 年 6 月 18 日 (周四)**

下午 14:30~15:30

报告地点: **科技综合楼三层**

311 报告厅

Abstract:

Motivated by recent theoretical results for the identification problem arising in single-photon emission computerized tomography (SPECT), we propose an adjoint state method for recovering both the source and the attenuation in the attenuated X-ray transform. Our starting point is the transport-equation characterization of the attenuated X-ray transform, and we apply efficient fast sweeping methods to solve static transport equations and adjoint state equations. Numerous examples are presented to demonstrate various features of the identification problem, such as uniqueness and non-uniqueness, stability and instability, and recovery of the wave front set.

欢迎大家参加！