# 数学与系统科学研究院

# 计算数学所网络学术报告

## 报告人： Prof. Jingzhi Li

（ *Southern University of Science and Technology* ）

## 报告题目：

**Determining a random Schrödinger equation with unknown source and potential**

## 邀请人： 毛士鹏 研究员

## 报告时间：2020 年 11 月 13 日（周五）

### 上午 10:30-11:30

## 报告工具：腾讯会议（ID：585 235 443）

## 会议链接：

https://meeting.tencent.com/s/pV9lsloXS0Be

# Abstract：

This talk studies the direct and inverse scattering problem associated with a time-harmonic random Schrödinger equation with a Gaussian white noise source term. We establish the well-posedness of the direct scattering problem and obtain three uniqueness results in determining the variance of the source term, the potential and the mean of the source term, sequentially, by the corresponding far-field measurements. The first one shows that a single realization of the passive scattering measurement can uniquely recover the variance of the source term, without knowing the other two unknowns. The second shows that if active scattering measurement is further used, then a single realization can uniquely recover the potential function without knowing the source term. The last one shows that if full measurements are used, then both the potential and the random source can be uniquely recovered.

欢迎大家参加！