数学与系统科学研究院

计算数学所学术报告

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报告题目：

L1 scheme for solving an inverse problem subject to a fractional diffusion equation

邀请人： 龚伟 副研究员

报告时间：**2021** 年 **5** 月 **13** 日（周四）

下午 **15:00-16:00**

报告地点：科技综合楼

311 教室

摘要：

We consider the temporal discretization of an inverse problem subject to a time fractional diffusion equation. Firstly, the convergence of the L1 scheme is established with an arbitrary sectorial operator of spectral angle $< \pi/2$, i.e., the resolvent set of this operator contains $\{z \in \mathbb{C} \setminus \{0\} : |\mathrm{Arg}\, z| < \theta\}$ for some $\pi/2 < \theta < \pi$. The relationship between the time fractional order $\alpha \in (0, 1)$ and the constants in the error estimates is precisely characterized, revealing that the L1 scheme is robust as α approaches 1. Then an inverse problem of a fractional diffusion equation is analyzed, and the convergence analysis of a temporal discretization of this inverse problem is given. Finally, numerical results are provided to confirm the theoretical results.

欢迎大家参加！