

数学与系统科学研究院

计算数学所学术报告

报告人: **Prof. Bangti Jin**

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报告题目:

**Variational formulation of problems
involving fractional order
differential operators**

邀请人: 龚伟 博士

报告时间: 2015 年 7 月 27 日 (周一)

下午 16:00~17:00

报告地点: 科技综合楼三层

311 报告厅

Abstract:

In this talk, we consider boundary value problems involving either Caputo or Riemann-Liouville fractional derivatives of order $\alpha \in (1,2)$ on the unit interval $(0,1)$. The variational problem for the Riemann-Liouville case is coercive on the space $H^{\{\alpha/2\}}_0$ but the solutions are less regular, whereas that for the Caputo case involves different test and trial spaces. We establish the regularity pickup of the solutions of the variational problem, which enables one to establish convergence rates of the finite element approximations. Finally, numerical results are presented to illustrate the error estimates.

欢迎大家参加！