数学与系统科学研究院

计算数学所学术报告

报告人：Dr. Alberto Gil Couto Pimentel Ramos

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报告题目：

Uniform and high-order discretization schemes for Sturm‑Liouville problems via Fer streamers

邀请人： 唐贻发 研究员

报告时间：2015 年 8 月 11 日（周二）

上午 10:30~11:30

报告地点： 数学院南楼七层

702 会议室

Abstract：

The current talk concerns the uniform and high-order discretization of the novel geometric integration approach to the computation of Sturm–Liouville problems via Fer streamers, put forth in (Ramos and Iserles, 2014, *Numerische Mathematik***, DOI: 10.1007/s00211-014-0695-0). In particular, the discretization schemes are shown to enjoy large step sizes uniform over the entire eigenvalue range and tight error estimates uniform for every eigenvalue. They are made explicit for global orders 4,7,10. In addition, the present talk provides total error estimates that quantify the interplay between the truncation and the discretization in the approach by Fer streamers.**

For the interested reader, a detailed exposition is collected in the two papers:

1) Ramos, A.G.C.P., 2015. Uniform and high-order discretization schemes for Sturm--Liouville problems via Fer streamers. Submitted. (http://www.damtp.cam.ac.uk/user/na/NA_papers/NA2014_04.pdf),

2) Ramos, A.G.C.P. and Iserles, A., 2014. Numerical Solution of Sturm--Liouville Problems via Fer Streamers. Numerische Mathematik. (http://www.damtp.cam.ac.uk/user/na/NA_papers/NA2013_09.pdf).

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