

数学与系统科学研究院

计算数学所学术报告

报告人: Prof. Jesus Maria Sanz-Serna

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报告题目:

Word series for dynamical systems

邀请人: 唐贻发 研究员

报告时间: 2015 年 8 月 3 日 (周一)

下午 15:30~17:00

报告地点: 数学院南楼七层

702 会议室

Abstract:

Word series have been recently introduced by A Murua and the present author as a means to analyze some numerical integrators.

They are an alternative to the well-known B-series introduced by Hairer and Wanner in 1974. In the talk I shall present the concept of word series and show how to use word series to treat systematically a number of problems in dynamical systems, including the computation of averaged systems, normal forms and invariants.

Short introduction:

Prof. Sanz-Serna is one of the leading researchers in Numerical Analysis around the world. He was born in Valladolid in 1953, he studied Mathematics at the university of his mother town, where he is Full Professor of Applied Mathematics since 1982.

Although he has made important contributions in different fields of Applied Mathematics and Numerical Analysis, his most successful research has been that on the numerical solution of Hamiltonian problems, which has given rise to a very active area, nowadays referred to as Geometric Integration. In the last years he is working on Highly Oscillatory Problems, Stochastic Analysis and Monte Carlo methods.

He was the first Spanish mathematician ever invited to speak at an International Congress of Mathematicians (in Zurich in 1994), and he is one of the most widely cited Spanish scientists in spite of the 8 years (1998-2006) he spent as Rector of his mother university.

He is member of the Royal Academy of Sciences of Spain since 2007, Fellow of SIAM since 2009 and, more recently, Fellow of the Institute of Mathematics and its Applications and of the American Mathematical Society. Since 2012 he is also a member of the European Academy of Sciences.

He has received several important awards from both, national and international Scientific Communities. He received the Germund Dahlquist Prize sponsored by SIAM in its first edition in 1995, the Iberdrola research prize (awarded once a year by a committee of Nobel prize winners to the best researcher in Spain across all fields), the prize of the Royal Spanish Academy of Sciences and, in 2013 he received the Research Prize of the Board of the University of Valladolid.

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