数学与系统科学研究院

计算数学所学术报告

报告人： **Prof. Alain LEGER**

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报告题目：

NONSMOOTH DYNAMICAL SYSTEMS

邀请人： 林群 院士

报告时间：2015 年 4 月 4 日（周六）

下午 16:00-17:00

报告地点： 数学院科南楼七层

702 会议室

Abstract：

The present lecture aims at presenting two books on recent advances in the theory of dynamical systems, in particular in the case where the right hand side is not a differentiable function.

The first one is a common work with Pr. CAO Qingjie, Department of Aerospace Engineering, Harbin Institute of Technology: A Smooth and Discontinuous Dynamical System: Theory and Applications, Springer, 1st semester 2015.
Here the behavior of a very simple mechanical system is investigated. The system has been built in such a way that, according to a geometrical parameter, it behaves either smooth, with an irrational nonlinearity, or discontinuous. Attention is paid to the transition between these two regimes, and to the fact that the nonlinearity is not truncated. A very large number of applications are suggested, either in mechanics or in electronic engineering.

The second one is a common work with Pr. Elaine PRATT, Department of Mathematics, Aix-Marseille University, Marseille, France: Qualitative Analysis of Nonsmooth Dynamics, ISTE Editions, 2nd semester 2015.
This book goes deeply into the mathematical foundations of nonsmoothness. Dealing, as the other book, with simple mechanical models, it focusses on the behavior resulting from impacts and friction. In such cases the right hand side is not a function, either a graph or a measure.

欢迎大家参加！