复旦大学数学科学学院
数学综合报告会

报告题目： The connection problem of the second Painlevé equation with large initial data
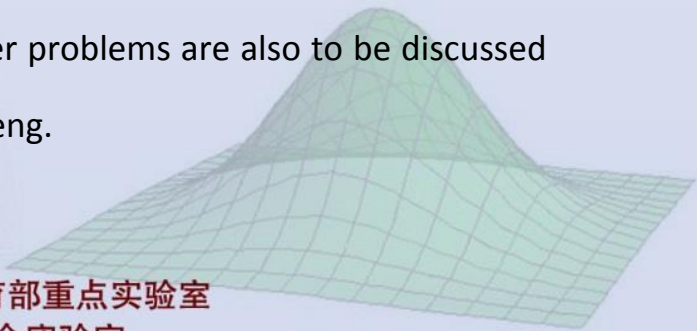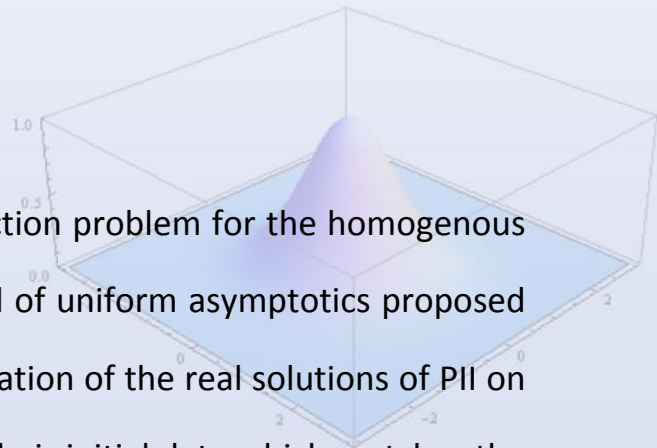
报告人：龙文高 博士 (湖南科技大学)

时间：2020-12-01 星期二 10:00--11:00

地点：腾讯会议 ID: 843 802 431

报告摘要：

We consider two special cases of the connection problem for the homogenous second Painlevé equation (PII) using the method of uniform asymptotics proposed by Bassom et al.. We give an asymptotic classification of the real solutions of PII on the negative (positive) real axis with respect to their initial data which matches the numerical results by Fornberg and Weideman. As by product, a rigorous proof of a property associated with the nonlinear eigenvalue problem of PII on the real axis, recently revealed by Bender and Komijani, is given by deriving the asymptotic behavior of the Stokes multipliers. Some further problems are also to be discussed in this talk. This is a joint work with Zhao-Yun Zeng.

非线性数学模型与方法教育部重点实验室
中法应用数学国际联合实验室
上海市现代应用数学重点实验室
复旦大学数学研究所