

数学与系统科学研究院

计算数学所学术报告

报告人: **Prof. Xiangsheng Xu**

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报告题目:

**Existence Theorems for a
fourth-order nonlinear elliptic
equation featuring the P-Laplace
Operator**

邀请人: 许现民 副研究员

报告时间: **2018年5月11日(周五)**

上午 9:00-10:00

报告地点: 科技综合楼三层

311 报告厅

Abstract:

In this talk, we investigate the existence assertion for the boundary value problem for the equation $-\operatorname{div}(j_{ru}j_p - 2ru) + au = f$, where $p > 1$; $a > 0$ are given numbers and f is a given function. This problem is derived from a crystal surface model proposed by J.L. Marzuola and J. Weare (2013 Physical Review, E 88, 032403). The mathematical challenge is due to the fact that the principal term in our equation is an exponential function of a p -Laplacian. As a result, a priori estimates are lacking. In spite of this, we have managed to design an approximation scheme, which enables us to obtain an existence theory for the problem.

欢迎大家参加！