

# 数学与系统科学研究院

## 计算数学所学术报告

报告人: 冯永平 教授

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报告题目:

**Three-scale asymptotic analysis of thermoelastic coupling problem in small periodic perforated structure**

邀请人: 曹礼群 研究员

报告时间: 2017 年 8 月 11 日 (周五)

下午 16:00~17:00

报告地点: 数学院南楼七层

702 教室

## **Abstract:**

**With the application of composites in civil engineering, air transport and daily life, the research on the thermal properties and mechanical properties of composites is becoming more and more interesting. In this talk, the multiscale behavior of composite material with periodic perforated structure is analyzed. Firstly, we study the thermal mechanical coupling problem in the composite material with periodic pore structure, and provides one kind of three scale asymptotic expansion. Secondly, based on the multiscale method, the asymptotic solution of the problem is expanded, and the homogenization equation and coefficients of the materials are discussed. Finally, the asymptotic error of the three scale expansion is analyzed.**

**欢迎大家参加！**