

数学与系统科学研究院

计算数学所学术报告

报告人: 阳莺 教授

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报告题目:

**The Application of Two-grid Method  
and superconvergence to  
Poisson-Nernst-Planck equations**

邀请人: 戴小英 副研究员

报告时间: 2016 年 8 月 17 日 (周三)

上午 9:00-10:00

报告地点: 数学院南楼七层

702 会议室

## **Abstract:**

**In this talk, we mainly discuss two-grid finite element methods for steady state Poisson-Nernst-Planck (PNP) equations in the biomolecular modeling area and the time dependent PNP equations for the ion channel. PNP equations are a coupled, nonlinear and singular system. We can decouple this system by the two-grid method which can avoid the divergence of iterations between the equations for the original coupled system and also can achieve the same accuracy order as the classic finite element method have. In addition, we will also study the application of superconvergence to PNP equations which can improve the computational efficiency of the iteration between the equations.**

**欢迎大家参加！**