

数学与系统科学研究院
计算数学所网络学术报告

报告人: **Prof. Zhimin Zhang**

(*Beijing Computational Science Research Center*)

报告题目:

**H(curl curl)-conforming and H(grad
curl)-conforming finite
elements---beyond Nedelec**

邀请人: 许现民 副研究员

报告时间: 2021 年 3 月 3 日 (周三)

下午 16:00-17:00

报告工具: 腾讯会议 (ID: 578 911 737)

会议链接:

<https://meeting.tencent.com/s/rn9BklNZPHoG>

Abstract:

In his two ground breaking papers (1980 and 1986), Nedelec proposed $H(\text{curl})$ -conforming and $H(\text{div})$ -conforming elements to solve second-order electromagnetic equations that contains the “curl” and “div” operators. It is more or less as the H^1 -conforming elements (or C^0 elements) for second-order elliptic equations that contains the $(\text{grad})^2$ operator. As is well known in the finite element method literature, in order to solve 4th-order elliptic equations such as the bi-harmonic equation, H^2 -conforming elements (or C^1 -elements) were developed. Recent years, there have been some research in solving electromagnetic equations which involve curl^4 operator and $(\text{curl grad})^2$ operators. Hence, construction of $H(\text{curl curl})$ -conforming and $H(\text{grad curl})$ -conforming elements becomes necessary. In this work, we report some recent development in this direction.

欢迎大家参加！