数学与系统科学研究院

计算数学所学术报告

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报告题目：

High order finite difference schemes for electromagnetic cavity problems

邀请人：　郑伟英副研究员

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报告地点：　科技综合楼三层 **311**

计算数学所报告厅

Abstract:

Radar cross section (RCS) predictions of cavities have been an important subject of study in electromagnetism. When the cavities are large compared to the wavelength of the electromagnetic fields, the computation is challenging. The main difficulty is that the solution is highly oscillatory for high wave numbers. In this research, high order compact finite difference schemes are proposed for solving Helmholtz equation along with Sommerfeld's radiation conditions imposed at infinity for the electromagnetic cavity problems. The phase error of the computational solution is reduced even relatively coarse meshes are used. Consequently, the proposed high order approaches allow us to solve the electromagnetic cavity problems with high wave numbers more efficiently and accurately. The fast algorithms are also designed for solving the resulting discrete linear systems.

欢迎大家参加！