

数学与系统科学研究院

计算数学所学术报告

报告人: 李斌 教授

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报告题目:

**High performance transient
electromagnetic modeling for large
multiscale targets under complex
electromagnetic environment**

邀请人: 曹礼群 研究员

报告时间: 2017 年 3 月 10 日 (周五)

下午 15:00-16:30

报告地点: 数学院南楼五层

514 教室

Abstract:

The accurate and efficient transient electromagnetic modeling of large multiscale targets under complex electromagnetic environment is great challenging for traditional numerical methods since their large multiscale features. The objective of this project is to design advanced techniques based on discontinuous Galerkin time-domain (DGTD) method for the 3D time-domain Maxwell's equations. More precisely, we are going to study an interior-penalty-based non-conformal DGTD for 3D curved interfaces, a Lawson exponential-based explicit time integration scheme and an implicit time-domain hybridizable discontinuous Galerkin method for efficient modelling of large multiscale problems, a combined DGTD-BI (boundary integral) method for efficient truncation of computational domain, and CPU-GPU based high performance parallel DGTD method under distribute memory architecture to improve the simulation efficiency significantly.

欢迎大家参加！