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：

Some observations on ORAS and SORAS preconditioners for solving high-frequency Helmholtz equation

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上午 **9:00-11:00**

报告地点：　科技综合楼三层

311 报告厅

Abstract:

Helmholtz problems are particularly difficult to precondition effectively for two main reasons: the high indefiniteness of the non-hermitian linear system and the instability of the local Dirichlet or Neumann problems. Optimised Schwarz methods (OSM) introduce optimized interface conditions not only improving the stability of the local problems but also maximizing the rate of the convergence of a domain decomposition iteration. GMRES is usually used to accelerate the stationary iteration for solving the preconditioned linear system. But its convergence theory is less clear if the preconditioned system is non-hermitian (or non-normal in general). In this talk, some results on two OSM-type preconditioners: ORAS and SOARS (also called as OBDD-H) will be presented. We will also explain the idea of "nearly normal" preconditioning for solving these non-self-adjoint problems.

欢迎大家参加！