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：

Notes on decomposition methods and their adaptive extensions for solving nonlinear and singular partial differential equations

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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:

Different decomposition methods have been crucial to the numerical solution of partial differential equations, in particular those with relatively sophisticated nonlinear structures or singularities. The most traditional forms of the methods,ADI and LOD, have been continuing playing non-replaceable roles in multi-physical computations due to their extraordinary features in structure simplicity,algorithmic efficiency and application flexibility. These methods often lead to interesting ways of operations, and offer opportunities for plug-and-play strategies in target-oriented realizations. This talk will provide our latest views into the classical splitting strategies, and discuss their latest extensions including adaptive splitting for solving singular and nonlinear partial differential equations in quenching-combustion applications. Some results are obtained jointly with my collaborators and students.

欢迎大家参加！