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：

Reduced Basis Collocation Methods for Partial Differential Equations with Random Coefficients

邀请人： 周涛 博士

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上午 9:45-10:25

报告地点： 数学院南楼二层

202 会议室

Abstract：

The sparse grid stochastic collocation method is widely used for solving partial differential equations with random coefficients. However, when the probability space has high dimensionality, the number of points required for accurate collocation solutions can be large, and it may be costly to construct the solution. We show that this process can be made more efficient by combining collocation with reduced basis methods, in which a greedy algorithm is used to identify a reduced problem to which the collocation method can be applied. Because the reduced model is much smaller, costs are reduced significantly. We demonstrate with numerical experiments that this is achieved with essentially no loss of accuracy. This is joint work with Professor Howard Elman of the University of Maryland.

欢迎大家参加！