数学与系统科学研究院

计算数学所学术报告

报告人： **Prof. Craig C. Douglas**

（*University of Wyoming, Laramie, WY, USA* ）

报告题目：

Data Driven Science: Computational Modeling of Large Wildfires

邀请人： 白中治研究员

报告时间：2010 年 12 月 22 日（周三）

上午 9：30～10：30

报告地点： 科技综合楼三层 311

计算数学所报告厅

Abstract：

The behavior of large wildfires is poorly understood and predicted. Modeling wildland fires is a multi- and interdisciplinary challenge addressed by diverse groups of researchers linked by computational science. Our methodology uses high-resolution dynamic models made of numerical weather prediction (NWP) models coupled to wildfire behavior models to simulate fire behavior and their feedbacks on weather. NWP models simulate atmospheric flows over complex terrain. The fire model represents the spread of a surface fire, post-frontal heat release, and a crown fire. They are coupled such that near-surface winds drive fire spread, which releases heat, water vapor, and smoke, affecting the weather directing the fire. These models replicate the dependence of fire behavior on fuel properties, wind, and terrain slope and are beginning to reproduce the unfolding of actual fire events. We discuss the computational science issues beyond computing power that arise in applying such models in a predictive manner.

This is joint work with Dr. Janice Coen of the National Center for Atmospheric Research, Boulder, CO, USA.

欢迎大家参加！