

数学与系统科学研究院

计算数学所学术报告

报告人: **Prof. Shidong Li**

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报告题目:

Fusion Frames: Theories and Applications

邀请人: 许志强副研究员

报告时间: **2011 年 1 月 14 日 (周五)**

下午 16: 00

报告地点: **科技综合楼三层 311**

计算数学所报告厅

Abstract:

The notion of Fusion Frames was developed to study ways in which functions or signals from a set of subspaces can be combined coherently regardless how complicated subspaces are related. Besides its mathematical applications in studies of local and parallel frame constructions, typical realistic applications include topics such as data fusion in sensor array signal processing. In this talk, theories of orthogonal and nonorthogonal fusion frames and its application to high resolution image fusion will be presented.

Fusion frames are an extension of the notion of mathematical frames. The mathematics of fusion frames includes the characterization and constructions of various fusion frames, including Parseval fusion frames. It also includes the computational issues such as global vs local and parallel processing, duality analysis, and the efficiency of the inversion of the fusion frame operator. The applications of fusion frames in data fusion comprise the mathematical fusion frame formulation of the signal acquisition by sensors, and numerical algorithms of the fusion implementation. These topics and numerical image fusion examples over both simulated and realistic images will be discussed.

欢迎大家参加!