数学与系统科学研究院

计算数学所学术报告

报告人：Associate Prof. Wing-Kin (Ken) Ma

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报告题目：

Hyperspectral Unmixing in Remote Sensing: What Do Signal Processing People Learn from There?

邀请人：　刘亚锋 博士

报告时间：2014 年 12 月 16 日（周二）

下午 14:30-15:30

报告地点：　数学院南楼二层 210 会议室

Abstract：

The aim of this talk is to overview hyperspectral unmixing (HU) techniques from a signal processing researcher's perspective. HU is one of the most prominent research topics in hyperspectral remote sensing. The problem is to identify materials and their corresponding compositions in a captured scene, using the high spectral degrees of freedom of hyperspectral sensors. From a signal processing viewpoint, this is a blind source separation (BSS) problem. We will review how clever insights from remote sensing researchers and recent involvements from other fields, such as signal processing, optimization and machine learning, lead to elegant HU theory and methods – which depart quite significantly from conventional BSS techniques, and in fact, give new insights to BSS theory and methods. The connections of HU to other areas, such as text mining, biomedical imaging and computer vision, may also be discussed, depending on the availability of time.

Biography:

Wing-Kin (Ken) Ma is currently an Associate Professor with the Department of Electronic Engineering, The Chinese University of Hong Kong. His research interests are in signal processing and communications, with recent activities focused on optimization, MIMO transceiver designs and interference management, blind signal processing theory, methods and applications.

Dr. Ma is active in the Signal Processing Society. He is currently serving or has served Associate Editor and Guest Editor of several journals, which include IEEE Transactions on Signal Processing, Signal Processing, IEEE Journal of Selected Areas in Communications and IEEE Signal Processing Magazine. He is a Member of the Signal Processing Theory and Methods (SPTM) Technical Committee. His students won ICASSP Best Student Paper Awards in 2011 and 2014, respectively. He was a tutorial speaker of EUSIPCO 2011 and ICASSP 2014, respectively.

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