数学与系统科学研究院

计算数学所学术报告

报告人：　Dr. Yin Xian

（ Hong Kong Univesity of Scientce and Technology ）

报告题目：

DCTNet for Audio Signal Classification

邀请人：　袁亚湘 院士

报告时间：2017 年 9 月 12 日（周二）

下午 16:30-17:30

报告地点：　科技综合楼三层

311 报告厅

Abstract:

We investigate DCTNet for audio signal classification. Its output feature is related to Cohen's class of time-frequency distributions. We introduce the use of adaptive DCTNet (A-DCTNet) for audio signals feature extraction. The A-DCTNet applies the idea of constant-Q transform, with its center frequencies of filterbanks geometrically spaced. The A-DCTNet is adaptive to different acoustic scales, and it can better capture low frequency acoustic information that is sensitive to human audio perception than features such as Mel-frequency spectral coefficients (MFSC). We use features extracted by the A-DCTNet as input for classifiers. Experimental results show that the A-DCTNet and Recurrent Neural Networks (RNN) achieve state-of-the-art performance in bird song classification rate, and improve artist identification accuracy in music data. They demonstrate A-DCTNet's applicability to signal processing problems.

欢迎大家参加！