

University of Macau

Faculty of Science and Technology

Department of Mathematics

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**PSD Tensors, SOS Tensors and PNS Tensors --- From Shallow
Water to Deep Water**

By

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Date: 21 April 2015 (Tuesday)

Time: 10:30 a.m. - 12:00 p.m.

Venue: E11- 1040

Abstract

Tensors (hypermatrices) are extensions of matrices. The difference is that a matrix entry a_{ij} has two indices i and j , while a tensor entry a_{i_1, \dots, i_m} has m indices i_1, \dots, i_m . In the recent decade, major progresses have been made on the research of tensors. It is revealed that there are also profound theories on tensor analysis, just as matrix analysis. A prominent theory is the Perron-Frobenius theory for nonnegative tensors. Associated with that theory are algorithms for computing the largest eigenvalue of a nonnegative tensor. Today I will review another prominent theory of tensor analysis -- PSD tensors, SOS tensors and PNS tensors.

Biography

Prof. Qi Li-qun is a professor at Hong Kong Polytechnic University. He obtained his PhD degree from University of Wisconsin. Prof. Qi is one of the ISI most highly cited scientist and won the first class science and technology award of Chinese operations research society in 2010. Currently he is a chair professor of applied mathematics. Prof Qi's research interest includes optimization; multi-linear algebra; and computational mathematics.

All are Welcome!

FST Seminar - MAT - " PSD Tensors, SOS Tensors and PNS Tensors --- From Shallow Water to Deep Water
" at 10:30am on 21 April 2015 (Tuesday), E11-1040