THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON PURE MATHEMATICS

Matrix majorizations in multivariable case and their applications

by

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Abstract

Vector majorization is a classical notion useful in many areas of mathematics and their applications. There are many ways to define majorizations for real matrices, generalizing the notion of vector majorization. Different types of matrix majorizations have been applied to different areas of research. For example, directional majorization can be applied in economics, week majorization plays an important role in the theory of statistical experiments and strong matrix majorization is useful in graph theory. We introduce majorizations for families of matrices and investigate them. The motivation to study these concepts comes from mathematical statistics and involves the information content of experiments. We characterize so-called minimal cover classes with respect to the weak matrix majorization. We also obtain the complete characterization for the matrix mappings preserving and converting several types of majorizations. Also we investigate several known majorizations on the sets of (0,1) and (-1,0,1) matrices.

(Joint work with Pavel Shteyner and Geir Dahl).

Date　: **10 November 2023 (Friday) ***
Time　: **2:00pm**
Venue : **Room 4475 (Lifts 25/26) ***

All are Welcome!