



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

**PhD Student Seminar**

**Tensor PCA with Heavy-tailed Noise**

By

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**Abstract**

This paper focuses on robust tensor PCA in the presence of heavy-tailed noise, with respect to Tucker decomposition. It includes robust matrix PCA as a special case. We manage to show convergence guarantees under absolute loss and pseudo-Huber loss. It puts weak assumptions on the noise term and outputs statistical optimal estimators with an overwhelming probability. Besides, it enjoys high efficiency and a two-phase linear convergence.

**Date : 13 April 2023 (Thursday)**

**Time : 11:00am**

**Venue : Room 4472 (Lifts 25/26)**

*All are Welcome!*