The Hong Kong University of Science and Technology

Department of Mathematics

<u>Seminar on Applied Mathematics</u>

Small sample statistical condition estimation for the total least squares problem

By

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Abstract

In this talk, under the genericity condition, we study the condition number estimation of the total least squares (TLS) problem based on small sample condition estimation (SCE), which can be incorporated into the direct solver for the TLS problem via the singular value decomposition (SVD) of the augmented matrix [A, b]. Our proposed condition estimation algorithms are efficient for the small and medium size TLS problem because they utilize the computed SVD of [A, b] during the numerical solution to the TLS problem. Numerical examples illustrate the reliability of the algorithms. Both normwise and componentwise perturbations are considered. Moreover, structured condition estimations are investigated for the structured TLS problem.

Date: *Tuesday, 1 Aug 2017*

Time: *4:00 p.m. - 4:50p.m.*

Venue: *Room 5508, Academic Building (near Lifts 25&26), HKUST*

All are welcome!