



復旦大學
FUDAN UNIVERSITY

Applied Math
Ph.D. Seminar

Computing Generalized Singular Value Decomposition Through Contour Integration

Speaker: Xinyu Shan (Fudan University)

Time: 2023-12-07, 16:10 to 17:00

Location: Rm 1801, Guanghua East Tower

Advisor: Meiyue Shao (Fudan University)

Abstract: In this talk, we introduce a contour integral-based algorithm for computing a few generalized singular values/vectors of a pair of matrices. Although SVD and GSVD are special cases of symmetric eigenvalue problems, additional care is required in order to apply the FEAST solver to SVD/GSVD. We propose an effective and robust projection scheme for the FEAST solver by analyzing several plausible candidates. Both theoretical analysis and numerical experiments confirm the effectiveness of our algorithm.