

1154-41-601

Longxiu Huang* (huang13@math.ucla.edu) and **Keaton Hamm**. *CUR Decompositions and Perturbations*.

This talk will discuss a useful tool in dimensionality reduction and low-rank matrix approximation called the CUR decomposition which decomposes a matrix by selecting representative columns and rows from it. We would present several equivalent formulations for CUR decomposition, and discuss a randomized row/column selection method to guarantee the exact CUR decomposition of a low-rank matrix with high probability. Additionally, a novel perturbation analysis is performed on CUR approximations of noisy versions of low-rank matrices, which compares them with the putative CUR decomposition of the underlying low-rank part. (Received September 08, 2019)