

Department of Mathematics

University of Houston

Scientific Computing Seminar

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The choice of optimal bases and low-rank approximations algorithms

Monday, Nov. 2, 2015

2 PM- 3 PM

Room 646 PGH

Abstract: Given a system of n vectors from \mathbb{C}^m , we want to find a subsystem consisting of k vectors so that the expansion of any other vector over this subsystem has the coefficients sufficiently small in modulus. The maximal volume principle allows one to find a subsystem of $k = m$ vectors with a guarantee that all expansions have the coefficients in modulus bounded by 1. If we increase k , then smaller coefficients could be obtained. We present different settings of the problem and some new results and discuss applications to the problem of construction of low-rank approximations to matrices and tensors.

This seminar is easily accessible to persons with disabilities. For more information or for assistance, please contact the Mathematics Department at 743-3500.