

NUMERICAL ANALYSIS AND SCIENTIFIC COMPUTING
SEMINAR

Approximating dominant eigenpairs of a matrix valued linear operator.

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Abstract: In this talk I will propose a new method to approximate the rightmost eigenpair of certain matrix-valued linear operators, arising e.g. from discretization of PDEs, in a low-rank setting. This is done by means of a suitable gradient system projected onto a low rank manifold. The advantage consists of a reduced memory and computationally convenient procedure able to provide good approximations of the leading eigenpair. Although the results are quite promising, the theory still needs substantial improvements to completely understand the behavior of the method in the more general setting. The talk is inspired by a joint collaboration with D. Kressner (EPFL) and C. Scalone (Univ. L'Aquila).

Friday, October 22, 2021, 12:30 pm
<https://emory.zoom.us/j/94914933211>

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