A POLYNOMIAL METHOD FOR EVALUATING THE MATRIX LOGARITHM

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Abstract

In this talk we present a closed polynomial formula for evaluating the principal logarithm of all matrices lying on the line segment $\{I(1-t)+At : t \in [0,1]\}$ joining the identity matrix I (at $t=0$) to any real matrix A ($t=1$) having no eigenvalues on the closed negative real axis. This extends to the matrix logarithm the well known Putzer's method for evaluating the matrix exponential.

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