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ESTIMATIONS OF THE TRACE OF POWERS OF POSITIVE SELF-ADJOINT OPERATORS BY EXTRAPOLATION OF THE MOMENTS*

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Abstract. Let A be a positive self-adjoint linear operator on a real separable Hilbert space H. Our aim is to build estimates of the trace of A^q, for $q \in \mathbb{R}$. These estimates are obtained by extrapolation of the moments of A. Applications of the matrix case are discussed, and numerical results are given.

Key words. Trace, positive self-adjoint linear operator, symmetric matrix, matrix powers, matrix moments, extrapolation.

AMS subject classifications. 65F15, 65F30, 65B05, 65C05, 65J10, 15A18, 15A45.

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