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SINGULAR VALUES AND EIGENVALUES OF MATRICES IN $\mathfrak{so}_n(\mathbb{C})$ AND $\mathfrak{sp}_n(\mathbb{C})$

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This paper is dedicated to Professor Tsuyoshi Ando for his significant contributions to linear algebra, operator theory and functional analysis

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ABSTRACT. We give a complete relation between the singular values and eigenvalues of a complex skew symmetric matrix in terms of multiplicative majorization and double occurrences of singular values and eigenvalues. Similar studies are given for matrices in the algebras $\mathfrak{sp}_n(\mathbb{C})$ and $\mathfrak{sp}_n(\mathbb{R})$.

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