

## RANK AND INERTIA OF SUBMATRICES OF THE MOORE–PENROSE INVERSE OF A HERMITIAN MATRIX\*

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**Abstract.** Closed-form formulas are derived for the rank and inertia of submatrices of the Moore–Penrose inverse of a Hermitian matrix. A variety of consequences on the nonsingularity, nullity and definiteness of the submatrices are also presented.

**Key words.** Hermitian matrix, Partitioned matrix, Moore–Penrose inverse, Rank, Inertia.

**AMS subject classifications.** 15A03, 15A09, 15A23, 15A57.

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