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SCHUR COMPLEMENTS AND BANACHIEWICZ-SCHUR FORMS*

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Abstract. Through the matrix rank method, this paper gives necessary and sufficient conditions for a partitioned matrix to have generalized inverses with Banachiewicz-Schur forms. In addition, this paper investigates the idempotency of generalized Schur complements in a partitioned idempotent matrix.

Key words. Banachiewicz-Schur form, Generalized inverse, Generalized Schur complement, Idempotent matrix, Matrix rank method, Maximal rank, Minimal rank, Moore-Penrose inverse, Partitioned matrix.

AMS subject classifications. 15A03, 15A09.

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