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COMPARISON OF CONGRUENCES AND STRICT EQUIVALENCES FOR REAL, COMPLEX, AND QUATERNIONIC MATRIX PENCILS WITH SYMMETRIES*

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Abstract. The equivalence relations of strict equivalence and congruence of real and complex matrix pencils with symmetries are compared, depending on whether the congruence matrices are real, complex, or quaternionic. The obtained results are applied to comparison of congruences of matrices, over the reals, the complexes, and the quaternions.

Key words. Quaternionic matrices, Congruence, Strict equivalence.

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