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UNIQUE PRIME FACTORIZATION IN A PARTIAL SEMIGROUP OF MATRIX-POLYNOMIALS

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Abstract

We establish a unique factorization result into irreducibel elements in the partial semigroup of 2×2-matrices with entries in $K[x]$ whose determinant is equal to 1, where K is a field, and where multiplication is defined as the usual matrix-multiplication if the degrees of the factors add up. This investigation is motivated by a result on matrices of entire functions.

Keywords: partial semigroup, unique prime factorization.

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