TOEPLITZ-PLUS-HANKEL BEZOUTIANS AND INVERSES OF TOEPLITZ AND TOEPLITZ-PLUS-HANKEL MATRICES

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Bezoutian-type formulas for the inverses of Toeplitz-plus-Hankel matrices are presented which involve bases of kernels of associated rectangular T+H matrices. Special Bezoutians of this type yield inverses of symmetric or skewsymmetric Toeplitz matrices and vice versa. In both cases these representations lead to splitting formulas for inverses of centrosymmetric or centro-skewsymmetric Toeplitz-plus-Hankel matrices.