

ON THE COMPUTATION OF THE NULL SPACE OF TOEPLITZ-LIKE MATRICES*

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Abstract. For many applications arising in system theory, it is important to know the structure and the dimension of the null spaces of certain structured matrices, such as Hankel and Toeplitz matrices. In this paper, we describe an algorithm based on the generalized Schur algorithm that computes the kernel of Toeplitz and Hankel matrices.

Key words. null space, Toeplitz matrix, Hankel matrix, generalized Schur algorithm

AMS subject classifications. 15A15, 15A09, 15A23

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