



DETERMINANTAL PROPERTIES OF GENERALIZED CIRCULANT HADAMARD MATRICES*

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Abstract. The derivation of analytical formulas for the determinant and the minors of a given matrix is in general a difficult and challenging problem. The present work is focused on calculating minors of generalized circulant Hadamard matrices. The determinantal properties are studied explicitly, and generic theorems specifying the values of all the minors for this class of matrices are derived. An application of the derived formulae to an interesting problem of numerical analysis, the growth problem, is also presented.

Key words. Hadamard matrices, Gaussian elimination, Growth problem, Determinant calculus, Symbolic computations.

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