Evaluation of minors for weighing matrices $W(n, n-1)$ having zeros on the diagonal

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A $(0, 1, -1)$ matrix $W = W(n, n-k)$, $k = 1, 2, \ldots$, of order n satisfying $W^T W = WW^T = (n-k)I_n$ is called a *weighing matrix of order n and weight* $n-k$ or simply a *weighing matrix*. Every row and column of a $W(n, n-k)$ contains exactly k zeros.
The talk will be concentrated on the evaluation of minors for weighing matrices $W(n, n-1)$ with zeros on the diagonal. Theoretical proofs concerning their minors up to the order of $(n-3) \times (n-3)$ will be derived. A general theorem specifying the analytical form of any $(n-k) \times (n-k)$ minor will be developed.

References

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