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AN EXTENSION OF HARTFIEL'S DETERMINANT INEQUALITY

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Abstract. Let A and B be $n \times n$ positive definite matrices, Hartfiel obtained a lower bound for $\det(A+B)$. In this paper, we first extend his result to $\det(A+B+C)$, where A, B and C are $n \times n$ positive definite matrices, and then show a generalization of this to the case of matrices whose numerical ranges are contained in a sector.

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