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## On the Determinantal Inequalities

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**Abstract:** In this paper, we discuss the determinantal inequalities over arbitrary complex matrices, and give some sufficient conditions for

$$d[A + B]^t \geq d[A]^t + d[B]^t,$$

where  $t \in \mathbb{R}$  and  $t \geq \frac{2}{n}$ . If  $B$  is nonsingular and  $\operatorname{Re}\lambda(B^{-1}A) \geq 0$ , the sufficient and necessary condition is given for the above equality at  $t = \frac{2}{n}$ .

The famous Minkowski inequality and many recent results about determinantal inequalities are extended.



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