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## Generalizations of the Ky Fan Inequality

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**Abstract:** In this paper, we extend the Ky Fan inequality to several general integral forms, and obtain the monotonic properties of the function  $\frac{L_s(\alpha, b)}{L_s(\alpha - a, \alpha - b)}$  with  $\alpha, a, b \in (0, +\infty)$  and  $s \in \mathbb{R}$ .



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