STABILITY PROPERTIES OF THE
GENERALIZED CHERNOFF INEQUALITY

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Abstract. In this short note we will present two stability properties of the Chernoff-Ou-Pan inequality, newly obtained in [6], which states that if $K$ is a convex domain in the plane $\mathbb{R}^2$ with area $a(K)$, then one gets

$$a(K) \leq \frac{1}{k} \int_0^\pi \omega_k(\theta)w_k(\theta + \frac{\pi}{k})d\theta,$$

where $w_k(\theta)$ is defined in [6] (see also §3 below), and the equality holds if and only if $K$ is a circular disc.


Keywords and phrases: Stability, convex domains, Chernoff-Ou-Pan inequality, Fourier series.

REFERENCES