

**On functions harmonic starlike with respect to symmetric,
conjugate and symmetric conjugate points**

AINI JANTENG, SUZEINI ABDUL HALIM, MASLINA DARUS

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Abstract

A class $\bar{\mathcal{H}}_s^*(\alpha, \beta, \sigma, k)$ of functions $f = h + \bar{g}$ which are harmonic, sense-preserving and univalent in the open unit disk $D = \{z : 0 < |z| < 1\}$ with $h(0) = f(0) = f_z(0) - 1 = 0$ and satisfying the condition

$$\left| \frac{zf'(z)}{f(z) - f(-z)} - k \right| < \beta \left| \frac{\alpha zf'(z)}{f(z) - f(-z)} + (2\sigma - k) \right|, \quad z \in D$$

with $0 \leq \alpha \leq 1, 0 < \beta \leq 1, \frac{1}{2} < k < \sigma \leq 1$ is introduced and studied. An analogous

class $\bar{\mathcal{H}}_c^*(\alpha, \beta, \sigma, k)$ and $\bar{\mathcal{H}}_s^*(\alpha, \beta, \sigma, k)$ is also examined.