OZAKI’S INEQUALITY AND UMEZAWA’S CONDITION FOR MULTIVALENT FUNCTIONS

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Abstract. Let $f(z)$ be analytic in $|z| < R$, continuous on $|z| = R$ and $f'(z) \neq 0$ on $|z| = R$. Then holds Ozaki’s inequality that the total variation of $\arg \{f(z)\}$ on $|z| = R$ is not more than the total variation of $\arg \{df(z)\}$ on $|z| = R$. Here we consider also Umezawa’s condition that

$$\frac{-\alpha}{2\alpha - 3} < 1 + \Re \frac{zf''(z)}{f'(z)} < \alpha \quad |z| < 1$$

follows the univalence of $f(z)$ in $|z| < 1$. In this paper we extended these results for multivalent functions.


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REFERENCES