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FIRST ORDER DIFFERENTIAL SUBORDINATION ASSOCIATED WITH CASSINI CURVE

(Subordinasi Pembeza Peringkat Pertama yang Bersekutu dengan Lengkung Cassini)

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ABSTRACT

Let p be an analytic function defined on the open unit disc with $p(0)=1$. In this paper, we determine the conditions for β such that certain subordination properties hold for $p(z)$ is subjected to certain geometric conditions involving the expressions $1+\beta zp'(z)$, $1+\beta zp'(z)/p(z)$ and $1+\beta zp'(z)/p^2(z)$ of which each is subordinated to $\sqrt{1+cz}$ and the condition for β is determined.

Keywords: analytic functions; univalent functions; differential subordination; Cassini curve

ABSTRAK

Andaikan p fungsi analisis yang tertakrif pada cakera unit terbuka dengan $p(0)=1$. Di dalam makalah ini, syarat β ditentukan sedemikian sehingga sifat-sifat subordinasi adalah benar bagi $p(z)$ tertakluk kepada syarat geometri mengandungi $1+\beta zp'(z)$, $1+\beta zp'(z)/p(z)$ dan $1+\beta zp'(z)/p^2(z)$ yang bersubordinasi kepada $\sqrt{1+cz}$.

Kata kunci: fungsi analisis; fungsi univalen; subordinasi pembezaan; lengkung Cassini

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