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STARLIKENESS OF AN INTEGRAL TRANSFORM

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Abstract. The main objective of this paper is to present a differential inequality implying starlikeness of order β and as a consequence, to obtain conditions on the kernel function g such that the function defined by

$$f(z) = \int_0^1 \int_0^1 g(r, s, z) \mathrm{d}r \mathrm{d}s$$

is a starlike function of the same order.

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Key words. Differential subordination, starlike function, convex function.

REFERENCES

- FOURNIER, R. and MOCANU, P.T., Differential inequalities and starlikeness, Complex Var. Theory Appl., 48 (2003), 283–292.
- [2] MILLER, S.S. and MOCANU, P.T., Differential Subordinations-Theory and Applications, Marcel Dekker, New York, 1999.
- [3] MILLER, S.S. and MOCANU, P.T., Double integral starlike operators, Integral Transforms Spec. Funct., 19 (2008), 591–597.
- [4] OBRADOVIC, M., Simple sufficient conditions for univalence, Mat. Vesnik., 49 (1997), 241-244.

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