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On some classes of functions regular in a halfplane. II. (English. Polish, Russian summaries)

Zbl 0774.30021

Zesz. Nauk. Politech. Rzeszowskiej, Folia Sci. Univ. Tech. Resoviensis 60, Mat. Fiz. 9, Mat. 8, 111-123 (1989).

In our paper “On some classes of functions regular in a halfplane” Bull. Pol. Acad. Sci., Math. (per. bibl.) we introduced some special subclasses of functions regular in a halfplane $D = \{z : \operatorname{Re} z > 0\}$ (starlike, convex in the direction, convex, with positive real part) with the special normalization near to infinity. In this paper we give some other results concerning these classes. We introduce the classes of α -starlike functions and the concept of subordination in a halfplane. For the class $\mathcal{P}(0) = \{p(z) : \operatorname{Re} p(z) > 0 \text{ for } z \in D, \lim_{D \ni z \rightarrow \infty} z(p(z) - \frac{1}{z}) = 0\}$ the following estimation $|p(z) - \frac{1}{2\operatorname{Re} z}| \leq \frac{1}{2\operatorname{Re} z}, z \in D$ are derived. Some structural formula for the class of starlike functions are also given.

Reviewer: J.Stankiewicz (Rzeszów)

MSC:

- 30C75 Extremal problems for conformal and quasiconformal mappings, other methods
- 30C45 Special classes of univalent and multivalent functions of one complex variable (starlike, convex, bounded rotation, etc.)
- 30C80 Maximum principle, Schwarz’s lemma, Lindelöf principle, analogues and generalizations; subordination
- 30C20 Conformal mappings of special domains

Cited in **1** Review
Cited in **2** Documents