

## COEFFICIENT BOUNDS FOR CERTAIN BAZILEVIČ MAPS

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**Abstract.** Following Babalola [3], we obtain the best possible upper bound for the coefficients of functions in the class  $B_n^\lambda(\gamma)$ , using a technique due to Nehari and Netanyahu [9] and an application of certain integral iteration of Carathéodory-type functions. The sharp bound on the Fekete-Szegő functional in  $B_n^\lambda(\gamma)$  is also obtained.

**MSC 2010.** 30C45.

**Key words.** Coefficient bound, Bazilevič maps, Carathéodory maps, analytic and univalent function.

### REFERENCES

- [1] ABDULHALIM, S., *On a class of analytic functions involving the Salagean differential operator*, Tamkang J. Math., **23** (1992), 51–58.
- [2] BABALOLA, K. O. and OPOOLA, T. O., *Iterated integral transforms of Carathéodory functions and their applications to analytic and univalent functions*, Tamkang J. Math., **37** (2006), 355–366.
- [3] BABALOLA, K. O., *Bounds on the coefficients of certain analytic and univalent functions*, Mathematica, **50** (73) (2008), 139–148.
- [4] BABALOLA, K. O., *New insights into Bazilevič maps*, An. Univ. Oradea Fasc. Mat., **23** (2016), 5–10.
- [5] BABALOLA, K. O., *New generalizations of Bazilevič maps*, Journal of Classical Analysis, **8** (2016), 163–170.
- [6] BAZILEVIČ, I. E., *On a case of integrability in quadratures of the Loewner-Kufarev equation* (in Russian), Mat. Sb., **37** (1955), 471–476 .
- [7] DUREN, P. L., *Univalent Functions*, Springer-Verlag, New York, 1983.
- [8] MILLER, S. S., *The Hardy class of a Bazilevič function and its derivative*, Proc. Amer. Math. Soc., **30** (1971), 125–132.
- [9] NEHARI, Z. and NETANYAHU, E., *On the coefficients of meromorphic schlicht functions*, Proc. Amer. Math. Soc., **8** (1957), 15–23.
- [10] OPOOLA, T. O., *On a new subclass of univalent functions*, Mathematica, **36** (59) (1994), 195–200.
- [11] POMMERENKE, CH., *Univalent Functions*, Vandenhoeck und Ruprecht, Göttingen, 1975.
- [12] SĂLĂGEAN, G. S. *Subclasses of univalent functions*, Lecture Notes in Mathematics, Vol. 1013, Springer, 1983, 362–372.
- [13] SINGH, R., *On Bazilevič functions*, Proc. Amer. Math. Soc., **38** (1973), 261–271.
- [14] THOMAS, D. K., *On Bazilevič functions*, Trans. Amer. Math. Soc., **132** (1968), 353–361.

Received June 11, 2017

Accepted September 5, 2017

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The authors thank the referee for his helpful comments and suggestions.

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