

A new class of harmonic uniformly starlike functions defined by an integral operator ¹

H. Özlem Güney, F. Müge Sakar

Abstract

Using the integral operator, we define and investigate a new class of complex-valued harmonic uniformly starlike functions in the unit disk. We obtain coefficient inequalities, extreme points and distortion bounds for the functions in our class. We also obtain convex combination for functions belonging to the investigated class. Presented results are a generalization of the results obtained by the earlier papers in the literature.

2010 Mathematics Subject Classification: 30C45, 30C50.

Key words and phrases: harmonic function, uniformly starlike function, integral operator.

References

- [1] J. Clunie, T. Sheil-Small, *Harmonic univalent functions*, Ann. Acad. Sci. Fenn. Ser. A. I. Math., 9, 1984, 3-25.
- [2] G. S. Salagean, *Subclass of univalent functions*, Lecture notes in Math., Springer-Verlag, 1013, 1983, 362-372.
- [3] Om. P. Ahuja, J. M. Jahangiri, *Multivalent harmonic starlike functions*, Ann. Univ. Marie Curie-Sklodowska Sect. A, LV, 1, 2001, 1-13.
- [4] L. I. Cotîrlă, *Harmonic univalent functions defined by an integral operator*, Acta Universitatis Apulensis, 17, 2009, 95-105.
- [5] H. Ö. Güney, F. M. Sakar, *On harmonic uniformly starlike functions defined by an integral operator*, Acta Universitatis Apulensis, 28, 2011.

¹Received 6 June, 2010

Accepted for publication (in revised form) 18 March, 2012

- [6] F. M. Sakar, H. Ö. Güney, *On harmonic functions defined by an integral operator* (submitted).

H. Özlem Güney

University of Dicle
Faculty of Science
Department of Mathematics
21280 Diyarbakır, Turkey
e-mail: ozlemg@dicle.edu.tr

F. Müge Sakar

University of Dicle
Faculty of Science
Department of Mathematics
21280 Diyarbakır, Turkey
e-mail: mugesakar@hotmail.com