CERTAIN FAMILIES OF ANALYTIC UNIVALENT FUNCTIONS GENERATED BY HARMONIC UNIVALENT MAPPINGS

SAYALI S. JOSHI and OM P. AHUJA

Abstract. In the present paper we obtain some inclusion theorems and convolution characterizations for the classes of analytic univalent functions generated by harmonic univalent and sense-preserving mappings.

MSC 2010. 30C45, 30C55, 50E20.

Key words. Harmonic mappings, univalent, sense-preserving, analytic, hypergeometric functions, subordination.

REFERENCES

[1] AHUJA, O.P., *The Bieberbach Conjecture and its impact on the developments in geometric function Theory*, Math. Chronicle, **15** (1986), 1–28.

[2] AHUJA, O.P., *Planar harmonic convolution operators generated by hypergeometric functions*, Integral Trans. and Special Functions, **18(3)** (2007), 165–177.

[3] AHUJA, O.P., *Connections between various subclasses of harmonic mappings involving hypergeometric functions*, Appd Math. Compu., **198** (2008), 305–316.

[4] AHUJA, O.P., *Planar harmonic univalent and related mappings*, J. Ineq. Pure Appl. Math., **6(4)** (2005), Art 122.

[5] AHUJA, O.P., JAHANGIRI, J.M. and SILVERMAN, H., *Convolutions for special classes of harmonic univalent functions*, Appl. Math. Letters, **16** (2003), 905–909.

[6] CLUNIE, J. and SHEIL-SMALL, T., *Harmonic univalent functions*, Ann. Acad Sci. Fenn. Ser. A. I. Mat., **9** (1984), 3–25.

[7] DUREN, P.L., *Harmonic mappings in the plane*, Cambridge University Press, 2004.

[8] RUSCHEWEYH, St. and SHEIL-SMALL, T., *Hadamard product of Schlicht functions and Polya-Schoenberg conjecture*, Comment. Math Helv., **48** (1973), 119–135.

[9] SILVERMAN, H., SILVIA, E.M. and TELAGE, T., *Convolution condition for convexity, starlikeness, and spriallikness*, Math. Z., **2** (1978), 125–130.

Walchand College of Engineering
Department of Mathematics
Sangli, (M.S.) 416415, India
E-mail: `sayali-75@yahoo.co.in`

Kent State University
Department of Mathematics
Burton, Ohio 44021-9500, USA
E-mail: `oahuja@kent.edu`