

## Subclass of Close-To-Convex Harmonic Mappings

**Authors :** Jugal K. Prajapat, Manivannan M.

**Abstract :** In this article we have studied a class of sense preserving harmonic mappings in the unit disk  $D$ . Let  $B^{\alpha, \beta}H$  denote the class of sense-preserving harmonic mappings  $f=h+g$  in the open unit disk  $D$  and satisfying the condition  $|\{z h'(z)+\alpha (h'(z)-1) \} | \leq \beta - |z g''(z)+\alpha g'(z)|$  ( $\alpha > -1, \beta > 0$ ). We have proved that  $B^{\alpha, \beta}H$  is close-to-convex in  $D$ . We also prove that the functions in  $B^{\alpha, \beta}H$  are stable harmonic univalent, stable harmonic starlike and stable harmonic convex in  $D$  for different values of its parameters. Further, the coefficient estimates, growth results, area theorem, boundary behavior, convolution and convex combination properties of the class  $B^{\alpha, \beta}H$  of harmonic mapping are obtained.

**Keywords :** analytic, univalent, starlike, convex and close-to-convex

**Conference Title :** ICCACNFM 2019 : International Conference on Complex Analysis, Complex Numbers and Functions in Mathematics

**Conference Location :** London, United Kingdom

**Conference Dates :** October 23-24, 2019