
Sorin G. Gal

Convolution-Type Integral Operators in Complex Approximation

CMFT 1 No.2 (2001), 417–432. [ISSN 1617-9447]

Abstract. In this paper we study classes of convolution-type complex operators for analytic functions on the open unit disk \mathbb{D} which are continuous on $\bar{\mathbb{D}}$. Their simple forms present three advantages: firstly, estimates with rates in terms of higher moduli of smoothness (or of best approximation) and explicit constants can easily be obtained, secondly we can prove global smoothness preservation properties with (best) constants for them, and thirdly, some shape preserving properties hold.

Keywords. Convolution-type operators, complex approximation, global smoothness preservation, moduli of smoothness, shape preserving approximation.

2000 MSC. 30E10, 30C45, 41A10, 41A25, 41A99.

Received. June 28, 2001, in revised form February 14, 2002.