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AN APPLICATION OF *q*-CALCULUS TO HARMONIC UNIVALENT FUNCTIONS

(Suatu Penggunaan *q*-Kalkulus untuk Fungsi Univalen Harmonik)

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ABSTRACT

The purpose of the present paper is to introduce a new subclass of harmonic univalent functions associated with *q*-calculus. We obtain coefficient conditions, distortion bounds, extreme points, convolution condition and convex combination for functions belonging to this class. We also discuss a class-preserving integral operator and *q*-Jackson type integral operator for this class of functions.

Keywords: harmonic; univalent function; *q*-calculus

ABSTRAK

Makalah ini bertujuan memperkenalkan suatu subkelas fungsi univalen harmonik baharu yang dikaitkan dengan *q*-kalkulus. Diperoleh batas-batas pekali, batas erotan, titik ekstrem, syarat konvolusi dan gabungan cembung untuk fungsi yang terkandung dalam kelas ini. Juga dibincangkan kelas mengekal pengoperasi pengkamir dan pengoperasi pengkamir jenis *q*-Jackson untuk kelas fungsi tersebut.

Keywords: harmonik; fungsi univalen; *q*-kalkulus

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