

ISSN 0304-9892 (Print)

ISSN 2455-7463 (Online)

Jñānābha ज्ञानाभ

VOLUME 46

2016

Published by :

The Vijñāna Parishad of India
DAYANAND VEDIC POSTGRADUATE COLLEGE

(Bundelkhand University)

ORAI-285001, U.P., INDIA

www.vijnanaparishadofindia.org/jnanabha

SUMMABILITY AND NUMERICAL APPROXIMATION OF THE SERIES INVOLVING LAURICELLA'S TRIPLE HYPERGEOMETRIC FUNCTIONS

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(Received : May 10, 2016; In Final Form : July 12, 2016)

ABSTRACT

Here, in our investigations, we prove that the series of integrals, involving Exton's joint-moments due to Dirichlet density in three dimensional space, is summable and then make its applications to obtain summability and numerical approximation of many series involving Lauricella's triple hypergeometric functions.

2010 Mathematics Subject Classification : 62G07, 62H10, 40C10, 33C70, 40A25, 41A17.

Keywords: *Joint-moments, Dirichlet density, summability, Lauricella's triple hypergeometric functions, numerical approximations and summation formulas.*

1. Introduction. Srivastava and Singhal [38] studied many of the classical statistical distributions, which are associated with the beta and gamma distributions. Further Exton [13] discussed generalized beta and gamma distributions with other special multivariable distributions, like Dirichlet distributions and multivariable normal distributions. He also discussed the expectations of some functions involving Lauricella's multiple hypergeometric functions [12].

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