South East Asian J. of Mathematics and Mathematical Sciences Vol. 15, No. 1 (2019), pp. 89-96

ISSN (Print): 0972-7752

## A NOTE ON SYMMETRIC BILATERAL BAILEY TRANSFORM

Satya Prakash Singh, S.N. Singh and Vijay Yadav<br>Department of Mathematics, Tilak Dhari PG College, Jaunpur, Uttar Pradesh, INDIA<br>Email : snsp39@gmail.com<br>*Department of Mathematics, S.P.D.T. College, Andheri (E), Mumbai, INDIA<br>Email : vijaychottu@yahoo.com

(Received: November 29, 2018)

Abstract: In this paper, using symmetric Bailey transform and some known summation formulas of bilateral basic hypergeometric series, certain transformations of bilateral q-series into unilateral q-series have been established.

Keywords and Phrases: Bailey transform, symmetric bilateral Bailey transform, asymmetric bilateral Bailey transform, bilateral hypergeometric series, qseries, summation formula, transformation formula.

2010 Mathematics Subject Classification: 33A30.

## 1. Notations and Definitions

Let q be a complex number such that $0<|q|<1$. We define the q -shifted factorial for all integers $k$ by

$$
\begin{align*}
(a ; q)_{\infty} & =\prod_{i=0}^{\infty}\left(1-a q^{i}\right),  \tag{1.1}\\
(a ; q)_{k} & =\frac{(a ; q)_{\infty}}{\left(a q^{k} ; q\right)_{\infty}} . \tag{1.2}
\end{align*}
$$

