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(Dedicated to Professor H. M. Srivastava on his 62<sup>nd</sup> Birthday)

**REMARKS ON "CERTAIN INTEGRALS INVOLVING  
HYPERGEOMETRIC FUNCTIONS OF THREE AND FOUR VARIABLES"**

**BY SUNIL JOSHI AND S.S. BHATI (Jñānābha, 27 (1997), 93-98)**

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**The result can be obtained by the operator in place of operator**

- (1) [1, p.94 (I)]  $\exp(uE_\alpha + vE_\beta + wE_\gamma)$   $\exp(uE_\alpha E_\alpha + vE_\beta E_\beta + wE_\gamma E_\gamma)$   
 (2) [1, p.94 (II)]  $\exp(uE_\gamma E_\gamma + vE_\alpha E_\alpha + wE_\beta)$   $\exp(uE_\gamma E_\gamma + vE_\alpha E_\alpha + wE_\beta E_\beta)$   
 (3) [1, p.94 (III)]  $\exp[(uE_\gamma E_\gamma + vE_\alpha + wE_\beta)E_\alpha]$   $\exp[(uE_\gamma E_\gamma + vE_\alpha + wE_\beta E_\beta)E_\alpha]$   
 (4) [1, p.94 (IV)]  $\exp(uE_\gamma E_\gamma + vE_\alpha + wE_\beta + tE_\delta E_\delta)$   $\exp(uE_\gamma E_\gamma + vE_\alpha E_\alpha + wE_\beta E_\beta + tE_\delta E_\delta)$   
 (5) [1, p.94 (V)]  $\exp(uE_\gamma E_\gamma + vE_\delta E_\delta + wE_\alpha + tE_\beta)$   $\exp(uE_\gamma E_\gamma + vE_\delta E_\delta + wE_\alpha E_\alpha + tE_\beta E_\beta)$   
 (6) [1, p.94 (VI)]  $\exp(uE_\gamma E_\gamma + vE_\alpha E_\alpha + wE_\delta E_\delta + tE_\beta E_\beta)$   $\exp(uE_\gamma E_\gamma + vE_\alpha E_\alpha + wE_\delta E_\delta + tE_\beta E_\beta)$

The result [1, p.94 (II)] for  $w=0$ , reduces to

$$(7) \int_{-\infty}^{\infty} \frac{\sin(2n+1)\pi x}{\sin \pi x \Gamma(\alpha+x)\Gamma(\beta-x)} {}_2F_1[\alpha+\beta, \alpha', \alpha+x; v] dx$$

$$= \frac{2^{\alpha+\beta-2}}{\Gamma(\alpha+\beta-1)} {}_2F_1[\alpha+\beta, \alpha'; \alpha+\beta-1; 2v], \operatorname{Re}(\alpha+\beta) > 1$$

in place of [1, p.97 (3.2)].

In right hand side of [(1, p.97, (3.3)], in place of  $F_2$  there should be  $F_1$ . Thus the particular cases [1, p.97, (3.1), (3.3), (3.4)] of [1, p.94, (I), (II), (III)] for  $u=0$ , are all same.

**REFERENCE**

- [1] S. Joshi and S.S. Bhati, Certain integrals involving hypergeometric functions of three and four variables, *Jñānābha* 27 (1997), 93-98.