

# CORRECTION TO "SOME ERGODIC THEOREMS INVOLVING TWO OPERATORS"

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The argument used to establish Theorem 1 of [1] proves less than asserted. Let the notation be that of [1]. Theorem 3 is then a consequence only if  $\mu(S) < \infty$  and therefore Theorems 4 and 5 must be withdrawn. The revised version of Theorem 1 is as follows.

**THEOREM 1.1.** *Let  $t$  and  $u$  be nonsingular measurable transformations of  $S$  onto itself which have no wandering sets of positive measure. If for each  $f(x)$ ,  $0 \leq f(x) \leq 1$ ,  $\lim_{n \rightarrow \infty} \sum_{k=0}^n f(v^k x)/n$  exists almost everywhere  $[\mu]$ , then the conclusion of Theorem 1 holds.*

By Theorem 3 of [2] there exists a finite  $t$ -invariant measure  $\alpha$  and a finite  $u$ -invariant measure  $\beta$ , each equivalent to  $\mu$ . The argument proceeds as before with these  $\alpha$  and  $\beta$ . In Theorem 2, the  $\alpha$  and  $\beta$  are also obtained as above.

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## REFERENCES

1. Paul Civin, *Some ergodic theorems involving two operators*, Pacific J. Math. **5** (1955), 869–876.
2. Yeal Naim Dowker, *Finite and  $\sigma$ -finite invariant measures*, Ann. Math. **54** (1951), 595–608.

