1115-60-406 **Steven T Morrow*** (morrows@wit.edu), WIT, 550 Huntington Ave, Dept of Applied Mathematics, Boston, MA 02115. *An Extension of a Multiplicative Coboundary Theorem for Some Sequences of Random Matrices.* Preliminary report.

Klaus Schmdit proved the following in 1977: Given a strictly stationary sequence $(X_k, k \in \mathbb{Z})$ of real-valued random variables, such that the family of distributions of the sequence of partial sums is tight, there exists a strictly stationary sequence $(Y_k, k \in \mathbb{Z})$ such that for each k, $X_k = Y_k - Y_{k+1}$. We say that the sequence (X_k) is a "coboundary".

In 1995, Richard Bradley improved this to include non-stationary sequences, while retaining the result of Schmidt as a corollary. Various other results on coboundaries have been proven with tightness being replaced by moment conditions. In 1996, Bradley proved an analog of Schmidt's result for certain sequences of random matrices, with matrix products replacing partial sums, and the coboundary condition becoming $X_k = Y_k Y_{k+1}^{-1}$. That result restricted the entries of the matrices to integers. This talk will discuss a new approach which extends the result for random matrices to those with entries from $\mathbb{R}$. (Received September 22, 2015)