1086-60-1341 **Santanu Chakraborty*** (schakraborty@utpa.edu), Associate Professor, Department of Mathematics, UTPA, 1201 West University Drive, Edinburg, TX 78539, and **Arunava Mukherjea** (arunava.mukherjea@gmail.com), Professor, Department of Mathematics, UTPA, 1201 West University Drive, Edinburg, TX 78539. *Limit Distributions of Random Walks on Stochastic Matrices.* Preliminary report.

The limit distribution of the sequence $X_n X_{n-1} \cdots X_1$, where $(X_n)_{n\geq 1}$ is a sequence of i.i.d. 2×2 stochastic matrices such that the random components C_n and D_n in the first column of X_n are independent, is identified here in a number of discrete situations. A general method is presented and it covers the cases when C_n and D_n have the same (or different) Bernoulli distributions. For example, if for a given positive integer k, kC_n and kD_n are each Bernoulli(p), $0 < p < 1$ (which means, each C_n and D_n has the distribution given by the probability measure $p\delta_{\{\frac{1}{k}\}} + (1-p)\delta_{\{0\}}$) , then the corresponding limit distribution λ in the case $k = 2$ satisfies: $\lambda(A) = 1$ where $A = \left\{ \frac{s}{2^n} : s = 0 \text{ or odd and } 1 \leq s \leq 2^{n-1},\ 1 \leq n < \infty \right\}$, and for each $\frac{s}{2^n} \in A$, $\lambda\left(\frac{s}{2^n}\right)$ is positive and known. Here, a singleton x in the support of λ represents the stochastic matrix whose both rows are $(x,\ 1-x)$. For $k > 2$, $S(\lambda)$, the support of λ is a set like the Cantor set. (Received September 21, 2012)