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J. Ding* (jiudin@gmail.com), Department of Mathematics, 118 College Dr., Box 5045, Hattiesburg, MS 39406. *Birkhoff's Individual Ergodic Theorem and Piecewise Constant Maximum Entropy Method.*

Let (X, Σ, σ) be a σ -finite measure space and $S : X \rightarrow X$ be a nonsingular transformation such that the corresponding Frobenius-Perron operator $P_S : L^1(X) \rightarrow L^1(X)$ has a stationary density f^* . We show that a piecewise constant maximum entropy method for the computational recovery of f^* can be interpreted as a numerical realization of the classic Birkhoff's individual ergodic theorem. (Received July 26, 2010)