

1106-49-222

Aaron Carl Smith* (aaron.smith@ucf.edu), Department of Mathematics, University of Central Florida, 4393 Andromeda Loop N, Orlando, FL 32816-1364. *Looking for an Optimal Unistochastic Preimage*. Preliminary report.

A natural map sends unitary matrices to a subset of bistochastic matrices. We refer to matrices in the image of the map as being unistochastic. During the talk the map will be defined, properties will be discussed, and an algorithm for finding unitary matrices in a given unistochastic matrix's preimage will be presented. The goal of the algorithm is to find arguments that minimize the difference between the identity matrix and the product of a matrix with its adjoint. The algorithm uses proximal unitary matrices to simultaneously find all arguments of a matrix in the preimage. (Received August 12, 2014)