

MAR05-2004-004247

Abstract for an Invited Paper
for the MAR05 Meeting of
the American Physical Society

Entanglement Generation of Not-Quite-Random Matrices

YAAKOV WEINSTEIN, Naval Research Laboratory

We investigate the connections between randomness and entanglement by exploring the entanglement generation of operators that have certain properties approaching those of random matrices. Certain random matrix statistical properties are shown to affect the entanglement generation and, by identifying operators which can fulfill these statistical properties we attempt to formulate what possibly efficient ways to achieve a random state on a quantum computer.