

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Stability of Flip and Exchange Symmetric Entangled State Classes¹ MEHMET ZAFER GEDIK, Sabanci University — Flip and exchange symmetric (FES) many-qubit states, which can be obtained from a state with the same symmetries by means of invertible local operations (ILO), constitute a one-parameter family of curves in the Hilbert space. Eigenstates of FES ILOs correspond to vectors that cannot be transformed to other FES states. Therefore, equivalence classes of states under ILO can be determined in a systematic way for an arbitrary number of qubits. More important, for entangled states, at the boundaries of neighboring equivalence classes, one can show that when the fidelity between the final state after an ILO and a state of the neighboring class approaches unity, probability of success decreases to zero. In other words, the classes are stable under ILOs.

¹This work has been partially supported by the Scientific and Technological Research Council of Turkey (TUBITAK) under grant 107T530.

Mehmet Zafer Gedik
Sabanci University

Date submitted: 19 Nov 2009

Electronic form version 1.4