**Transition of a three-dimensional Z_N topologically ordered phase
to a trivial phase** CHING-YU HUANG, TZU-CHIEH WEI , C.N. Yang Institute
for Theoretical Physics, Stony Brook University — Topologically ordered quantum
systems have robust physical properties, such as quasiparticle statistics and ground-
state degeneracy, which do not depend on the microscopic details of the Hamiltonian.
We consider a three-dimensional Z_N topological phase under a string tension g. First
we calculate the modular matrices S and T using tensor network methods and these
matrices can serve as order parameters to determine the critical string tension g_c.
The obtained transition agrees with results from a mapping to a three-dimensional
classical N-state Potts model.

Ching-Yu Huang
C.N. Yang Institute for Theoretical Physics, Stony Brook University