

Abstract Submitted
for the CAL10 Meeting of
The American Physical Society

Haunted Quantum Entanglement: A New Scenario DOUGLAS SNYDER — A haunted quantum entanglement scenario is proposed that is very close to Greenberger and YaSin's haunted measurement in that: 1) the entity that is developing as a which-way marker is effectively restored to its state prior to its developing as a which-way marker, and 2) the entity for which the developing which-way marker provides information enters the state it would have had if the development of the which-way marker had never begun. In the hqe scenario, the loss of developing which-way information through 1 relies on the loss of a developing entanglement. The photon initially emitted in one of two micromaser cavities and developing into a which-way marker is effectively lost through the injection of classical microwave radiation into both of the microwave cavities: 1) after the atom initially emits the photon into one of the micromaser cavities and exits the cavity system, and 2) before this atom reaches the 2 slit screen. The atom enters the state it would have had if the atom had never emitted the photon into one of the micromaser cavities because of the injection of classical microwave radiation into both of the microwave cavities and the presence of an rf coil situated at the exit of the micromaser cavity system.

Douglas Snyder

Date submitted: 14 Sep 2010

Electronic form version 1.4