

Abstract Submitted
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A Practical Realization of the Delayed Choice Method with Haunted Quantum Entanglement for Choosing at a Distance an Overall Distribution Exhibiting Either Which-Way Information or Interference

DOUGLAS SNYDER, None — This method extends the idea of Greenberger and YaSin's haunted measurement to entanglement. There is a delayed choice whether or not to keep the entanglement between paired photons where an idler photon provides which way information to a distant signal photon. One can produce a ww distribution or a distribution showing interference in the signal photons at a distance by either keeping the paired idler photons or losing them in many other similar photons. Movable mirrors can either send an idler photon to one of two detectors along the two idler photon paths or instead send the idler photon into two optical microcavities filled with photons similar to the idler photon. The result is two different distributions depending on whether the paired idler photon is lost before the signal photon is detected. Ultrafast switches for single entangled photons can be used instead of mirrors to change the paths for the idler photon while the idler photon is in flight. References to the delayed choice method with haunted quantum entanglement: <http://meetings.aps.org/link/BAPS.2012.MAR.K1.303>, <http://meetings.aps.org/link/BAPS.2011.APR.S1.23>, <http://meetings.aps.org/link/BAPS.2011.APR.S1.22>.

Douglas Snyder
None

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