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An Optical Quantum Information Transfer Device. DOUGLAS SNYDER — Binary information can be sent between locations remote from one another without the velocity limitation of the velocity of light in vacuum. The OQITD relies on "hidden" events for idler photons traveling through an interferometer where these "hidden" events point to which-way information for these photons. Through either: 1) keeping the "hidden" events "hidden" until which-way information is lost, or 2) instead making these events public before which-way information is lost, one can influence the spatial distribution of paired signal photons that were created in the same process and at the same location as the idler photons. Which-path information concerning the signal photons themselves becomes unavailable shortly after their creation. Two possible distributions for the signal photons can be developed in different sets of runs of the OQITD. One distribution is indicative of which-way information, and the other distribution is indicative of interference. These two different distributions can be used to create binary bits which themselves can be assembled into a message. The motion of the paired signal and idler photons does not violate the velocity limitation of the special theory of relativity. Nonetheless, the effect of manipulating the circumstances concerning the idler photons on the distribution of the distant paired signal photons is not limited by the velocity limitation of the special theory. This effect is used to transmit a binary message.

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