

Abstract Submitted
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Entangled Photon Holes TODD PITTMAN, JUNLIN LIANG, JAMES FRANSON, UMBC, Baltimore MD 21250 — Entangled photon hole (EPH) states represent a new form of entanglement that is based on the existence of “missing pairs” of photons in two optical modes. In contrast to the more familiar photon pairs entangled in polarization or other variables, the entanglement in EPH states arises from the absence of the photon pairs themselves. We will review recent experimental work on the generation of these states, and theoretical work showing that they can be relatively insensitive to loss and amplification noise in certain situations. We will also report on our recent efforts to generate time-bin EPH states which have different properties than energy-time EPH states.

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