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Single-photon sources for linear optics quantum computation TODD PITTMAN, BRYAN JACOBS, JAMES FRANSON, Johns Hopkins Univ. Applied Physics Laboratory, JOHNS HOPKINS UNIV. APPLIED PHYSICS LABORATORY TEAM — Although single-photon sources have recently been realized in a number of physical systems, only of few of them have experimentally demonstrated the types of properties required for linear optics quantum computing. In this talk, we review these requirements, and discuss the technical and fundamental challenges in meeting them. We will focus on a periodic source in which single-photons heralded from parametric down-conversion pairs are trapped and released from a storage loop.

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