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Abstract for an Invited Paper
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Photon Quantum Mechanics Experiments for Undergraduates[1]

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We have developed a set of laboratories for teaching the fundamentals of quantum mechanics to undergraduates [1]. At an elementary level the experiments are used to explain quantum interference via Feynman's arguments of distinguishability of alternatives. At a higher level the experiments are used as exercises in state vector manipulation: superposition, state projection and two-particle entanglement. The laboratories rely on correlated photons produced by spontaneous parametric down-conversion. The apparatus fits in a 2'x4' optical breadboard. [1] E.J. Galvez et al. Am. J. Phys., 73, 127 (2005).

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