

Multi Photon Polarization Entangling Lightwave Circuits

Disclosure Number

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Technology Summary

The invention relates to quantum systems and more specifically to lightwave circuits for providing multi photon polarization. Current photon polarization entangling schemes for quantum information science involve the use of bulk optic elements such as beam-splitter cubes, calcite beam-displacing crystals and half-wave plates. This invention provides the necessary design rules and concept to generate any complex multiple photon polarization entangled state, on a silicon waveguide platform, from a typical array of spontaneous parametric down-conversion photon-pair sources in a compact, stable and scalable package.

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