

HUMBOLDT-UNIVERSITÄT ZU BERLIN
INSTITUT FÜR PHYSIK



Sonderkolloquium

Mittwoch, 15. Juli 2015, 15:30 Uhr

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*“High-Efficiency Source of Heralded Down-
Converted Separated Photons in Arbitrary Bell
States”*

Abstract:

Recently, high-efficient cavity-enhanced down-converted entangled photon pairs in a single spatial mode in one of the Bell states have been generated and verified by measuring the Hong-Ou-Mandel effect. These photons cannot be separated so as to remain entangled and therefore cannot be directly used in quantum information applications, e.g., quantum teleportation. However, with two such pairs from two cavities we can overcome this limitation and I propose a setup which can generate pairs separated photons in an arbitrary Bell state conditioned on an interferometric measurement of the coupled pairs. I shall present details of the proposed setup, as well as a comparison with and a discussion of some other generations of heralded photon pairs in Bell states.

Ort: Vortragsraum 0'21

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