SFB/TRR 21 - Seminar

6. Oktober 2011, Ulm

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Exploring the hybrid quantum repeater

Long-distance quantum communication can only be achieved with the help of quantum repeaters. In this talk we will be mainly focused on the hybrid quantum repeater. Its protocol is based on atomic qubit-entanglement distribution through optical coherent-state communication. A detailed rate analysis will be described, showing that in a fairly practical scenario, our hybrid system can create near-maximally entangled (F=0.98) pairs over a distance of 1280 km at rates of the order of 100 Hz. Focused on memory imperfections we will also present an encoded scheme based on Calderbank-Shor-Steane codes.

6. Oktober 2011, 11:00 Uhr

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