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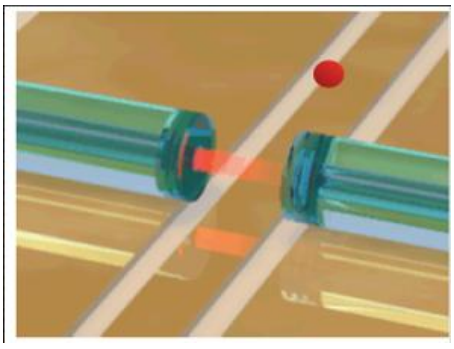
Physikalischen Kolloquium
Montag, 26.06.2017
16:15 Uhr in N24/H13

Professor Dr. Jakob Reichel
Laboratoire Kastler Brossel
ENS Paris

Creating multiparticle enganglement with optical fiber microcavities

The “strange” features of quantum mechanics are taking increasingly tangible forms thanks to research such as the Nobel-crowned experiments of Dave Wineland and Serge Haroche. An exciting and fast-growing research field has emerged at the interface of fundamental physics and technology, where the nonclassical features of quantum mechanics are employed to engineer powerful, radically new technologies. Multiparticle entanglement is a key resource in these technologies. I will describe how high-finesse optical cavities can be used to produce and detect such entanglement in ultracold atoms and other quantum emitters, and show examples from recent experiments in our group with fiber microcavities on atom chips. One application is quantum metrology, and I will show progress towards a spin-squeezed atomic clock on a chip.



Ab 16.00 Uhr Kaffee, Tee und Kekse vor dem Hörsaal H13
Organisation: **Prof. Dr. F. Jelezko, Tel. 23750**
Host: **Prof. Dr. J. Hecker Denschlag, Dr. T. Kampschulte, Tel. 26100, 26120, off.: 26101**