The RWTH Aachen

PHYSICS COLLOQUIUM

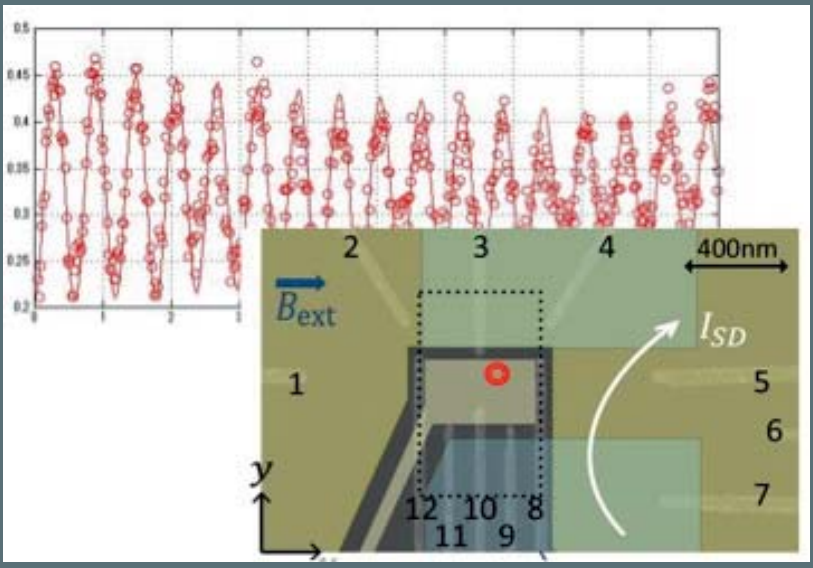
at the Physikzentrum Melaten

November 10, 2014

16:30h in 28D001

Lieven Vandersypen (Delft University of Technology)

A silicon quantum computer



A hundred years after its discovery, the predictions of quantum theory remain highly fascinating and puzzling. Going beyond the surprise, we ask ourselves how quantum superposition and entanglement can be used to accomplish tasks that are otherwise impossible. A prime example is the quantum computer, which offers the promise of solving important problems that are otherwise out of reach. In the past decade, we have learned to initialise, manipulate, and read out individual electron spins trapped in small arrays of semiconductor quantum dots, thus creating small quantum registers. Today, a central question is what it takes to scale up to very large numbers of quantum bits. Increasingly, silicon provides part of the answer.

tea and cookies at 16:15h

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