

Solvay Colloquium



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On the road to Fault Tolerant Quantum Computation

Only long after the basic foundations of quantum physics were laid was it realized that the quantum aspects of the world provide new tools, both for fast computation and for the maintenance of security and privacy, which were completely unforeseen by classical physics. The “quantum money” concept of Wiesner, and the fast factoring algorithm of Shor, have launched us on a quest to physically realize these capabilities. Qubits are extremely sensitive to noise, but progress in the lab, which I will highlight with examples from solid-state systems, are now close to achieving the necessary conditions for a large scale quantum computer to be possible. I will show what experimentalists are hoping to achieve in the next 5-10 years towards this goal.

Tuesday 19 May 2015 at 4.00 P.M.

COFFEE AND TEA WILL BE SERVED AT 3.45 P.M. IN FRONT OF THE SOLVAY ROOM

SOLVAY ROOM

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