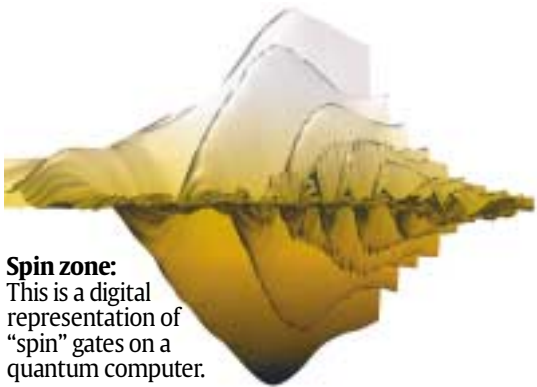


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Spin zone:

This is a digital representation of “spin” gates on a quantum computer.

Here's a switch, for quantum computing

Electronic switches may bring us closer to desktop quantum computers, scientists say. Quantum computers are envisioned as the next generation of fast and powerful computers. They will rely on “qubits” able to hold many values simultaneously to make calculations, replacing the on-or-off “bits” inside today’s computers. The discovery of an electronic switch for the magnetic “spin” property of atoms, released ahead of schedule in *Science*, demonstrates a new, simpler way for spin-based “qubits” to work with conventional electronics, say University of California-Santa Barbara and University of Pittsburgh researchers. While they had previously thought spins could be manipulated only with tricky and powerful magnetic fields, the researchers found the spin switches, or gates, can be opened and shut using conventional electric circuits like those in modern computers.