

Viernes 20 de ENERO 2023

12.00 h

Sala de Grados
Facultad de Ciencias

● INMA *Impulso*



Quantum computing with spins in silicon

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Quantum Motion
United Kingdom

Fernando González-Zalba focuses on developing a CMOS-based quantum computing architecture using state-of-the-art CMOS transistor technology. His are devoted to simplifying the architecture by reducing the complexity of the quantum circuit using novel high-frequency techniques such as “gate-based radio-frequency reflectometry”. This technique allows charge-sensing without the need of external electrometers and performs at equivalent levels of sensitivity. Besides, it allows probing the dynamics of fast-driven two-levels systems (or qubits) leading to beautiful quantum phenomena such as Landau-Zener-Stuckelberg interferometry, Pauli spin-blockade or Sisyphus dissipation. Recently, he has been working on integration CMOS digital and quantum electronics to facilitate data management in large scale quantum processors