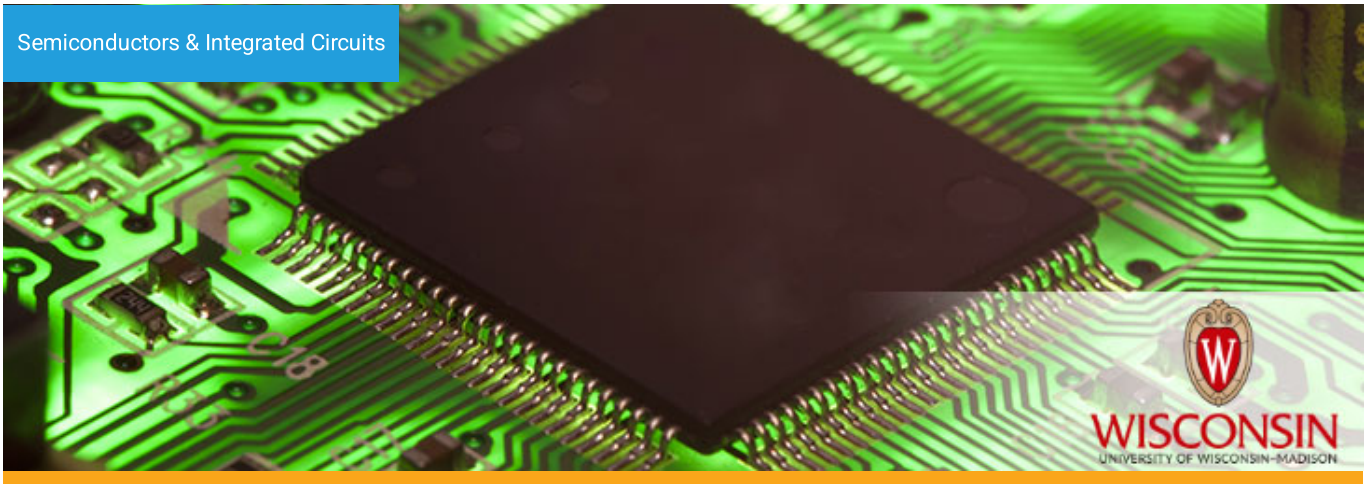




TWO-DIMENSIONAL CONVEYOR-MODE SPIN QUBIT SHUTTLING DEVICES

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Inventors: Mark Eriksson, Mark Friesen, Merritt Losert, Vatsal Bandaru

A need exists for a quantum computing system that increases qubit coupling capabilities and reduces spin decoherence due to valley splitting without exacerbating the fan-out problem.

The Invention

UW-Madison researchers have developed an electron shuttling scheme for silicon quantum dot qubits that allows for two-dimensional transport of the qubit over large distances. This advancement allows the qubit to avoid dangerous regions of the device during shuttling. The technique involves using a 2D pattern of gates, rather than a quasi-1D pattern, which provides plenty of transverse motion, as desired.

Additional Information

For More Information About the Inventors

- [Mark Friesen](#)

Tech Fields

- [Semiconductors & Integrated Circuits : Quantum dot technologies](#)

For current licensing status, please contact Emily Bauer at emily@warf.org or 608-960-9842