

Abstract Submitted
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A new look at encoded-qubit quantum dot quantum computing in silicon CHARLES TAHAN, YUN-PIL SHIM, RUSKO RUSKOV, Laboratory for Physical Sciences — Although the properties of spin-based qubits are specified by the material system they reside in, it's possible to modify those properties by encoding a qubit into multiple physical spins. Here we consider new operating regimes for encoded spin qubits and discuss their relevance to spin-based quantum computing and qubit-qubit coupling, especially in silicon quantum dot systems. We will also briefly discuss recent developments in g-factor theory in silicon quantum dots and their possible implications.

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