

Abstract Submitted
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Electron spin decoherence in silicon carbide nuclear spin bath LI-PING YANG, Beijing CSRC — In this paper, we study the electron spin decoherence of single defects in silicon carbide (SiC) nuclear spin bath. We find that, although the natural abundance of ^{29}Si (4.7%) counter-intuitive result, is the suppression of heteronuclear-spin flip-flop process in finite magnetic field. Our results show that electron spin of defect centers in SiC are excellent candidates for solid state spin qubit in quantum information processing.

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