

Materials Research Science and Engineering Centers

Engineering a new highly coherent defect in diamond, the neutral silicon vacancy center (SiV^0) (IRG-3)

IRG-3 has discovered and engineered a new highly coherent defect in diamond, the neutral silicon vacancy center (SiV^0). This is the only known defect in diamond that has both long spin coherence times and narrow, stable optical transitions.

“Observation of an environmentally insensitive solid state spin defect in diamond,” B. C. Rose¹, D. Huang¹, Z.-H. Zhang¹, P. Stevenson¹, A. M. Tyryshkin¹, S. Sangtawesin¹, S. Srinivasan¹, L. Loudin², M. L. Markham³, A. M. Edmonds³, D. J. Twitchen³, S. A. Lyon¹, and N. P. de Leon¹, *Science* **361**, 60-63 (2018).

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“Strongly anisotropic spin relaxation in the neutral silicon vacancy center in diamond,” B. C. Rose¹, G. Thiering^{2,4}, A. M. Tyryshkin¹, A. M. Edmonds³, M. L. Markham³, A. Gali^{2,4}, S. A. Lyon¹, N. P. de Leon¹, *Phys. Rev. B* **98**, 235140 (2018)

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