Nanoscale Engineering and Optical Addressing of Single Spins in Diamond

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Reference:
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http://onlinelibrary.wiley.com/doi/10.1002/smll.201000902/abstract [2]

The artificial creation of shallow nitrogen-vacancy (NV) centres in diamond with 25 nm lateral resolution is performed by collimated implantation of low-energy nitrogen ions. The electron spin associated to this defect is the most promising qubit for a scalable quantum computer working at room temperature. Individual optical addressing of two single centres separated by only 16 nm is demonstrated with stimulated emission depletion (STED) microscopy.

- 16.10.Es Electrons in solids: spin [3]
- Quantum Computation [4]
- SOLID [5]
- 16.20.Dc Defect centers in diamonds [6]

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