

Abstract Submitted  
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**Techniques for super-resolution microscopy using NV-diamond**

ALEXEI TRIFONOV, Harvard, DAVID GLENN, NIR BAR-GILL, DAVID LE SAGE, RONALD WALSWORTH, Harvard-Smithsonian — We discuss the development and application of techniques for super-resolution microscopy using NV centers in diamond: stimulated emission depletion (STED), metastable ground state depletion (GSD), and stochastic optical reconstruction microscopy (STORM). NV centers do not bleach under optical excitation, are not biotoxic, and have long-lived electronic spin coherence and spin-state-dependent fluorescence. Thus NV-diamond has great potential as a fluorescent biomarker and as a magnetic biosensor.

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