

Publications – Institute for Quantum Optics

- (1) Unden T., Tomek N., Weggler T., Frank F., London P., Zopes J., Degen C., Raatz N., Meijer J., Watanabe H., Itoh K. M., Plenio M. B., Naydenov B. & Jelezko F. (2018) Coherent control of solid state nuclear spin nano-ensemble. npj Quantum Information 4, Article number: 39
- (2) Nizovtsev A. P., Kilin S. Ya, Pushkarchuk A. L., Pushkarchuk V. A., Kuten S. A., Zhikol O. A., Schmitt S., Unden T. & Jelezko F. **(2018)** Non-flipping ^{13}C spins near an NV center in diamond: hyperfine and spatial characteristics by density functional theory simulation of the $\text{C}_{510}[\text{NV}]\text{H}_{252}$ cluster. New Journal of Physics 20, 023022
- (3) Frank F., Unden T., Zoller J., Said R. S., Calarco T., Montangero S., Naydenov B. & Jelezko F. **(2017)** Autonomous calibration of single spin qubit operations. npj Quantum Information 3, Article number: 48
- (4) Scheuer J., Schwartz I., Müller S., Chen Q., Dhang I., Plenio M. B., Naydenov B. & Jelezko F. **(2017)** Robust techniques for polarization and detection of nuclear spin ensembles. Phys. Rev. B 96, 174436
- (5) Stark A., Aharon N., Unden T., Louzon D., Huck A., Retzker A., Andersen U. L. & Jelezko F. **(2017)** Narrow-bandwidth sensing of high-frequency fields with continuous dynamical decoupling. Nature Communications, DOI: 10.1038/s41467-017-01159-2
- (6) Siyushev P., Metsch M. H., Ijaz A., Binder J. M., Bhaskar M. K., Sukachev D. D., Sipahigil A., Evans R. E., Nguyen C. T., Lukin M. D., Hemmer P. R., Palyanov Y. N., Kupriyanov I. N., Borzdov Y. M., Rogers L. J., & Jelezko F. **(2017)** Optical and microwave control of germanium-vacancy center spins in diamond. Phys. Rev. B 96, 081201(R)
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- (8) Bhaskar M. K., Sukachev D. D., Sipahigil A., Evans R. E., Burek M. J., Nguyen C. T., Rogers L. J., Siyushev P., Metsch M. H., Park H., Jelezko F., Loncar M. & Lukin M. D. **(2017)** Quantum Nonlinear Optics with a Germanium-Vacancy Color Center in a Nanoscale Diamond Waveguide. Phys. Rev. Lett. 118, 223603
- (9) Schmitt S., Gefen T., Stürner F.M., Unden T., Wolff G., Müller C., Scheuer J., Naydenov B., Markham M., Pezzagna S., Meijer J., Schwarz I., Plenio M., Retzker A., McGuinness L.P., Jelezko F. **(2017)** Submillihertz magnetic spectroscopy performed with a nanoscale. Science, Vol 356, Issue 6340, pages 832-837
- (10) Binder J. M., Stark A., Tomek N., Scheuer J., Frank F., Jahnke K. D., Müller C., Schmitt S., Metsch M. H., Unden T., Gehring T., Huck A., Andersen U. L., Rogers L. J. & Jelezko F. **(2017)** Qudi: a modular python suite for experiment control and data processing. SoftwareX, Volume 6, 2017, Pages 85–90
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- (13) Uden T., Balasubramanian P., Louzon D., Vinkler Y., Plenio M. B., Markham M., Twitchen D., Stacey A., Lovchinsky I., Sushkov A. O., Lukin M. D., Retzker A., Naydenov B., McGuinness L. P., & Jelezko F. **(2016)** Quantum Metrology Enhanced by Repetitive Quantum Error Correction. *Phys. Rev. Lett.* 116, 230502
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- (15) Felgen N., Naydenov B., Turner S., Jelezko F., Reithmaier J. P., Popov C. **(2016)** Incorporation and study of SiV centers in diamond nanopillars. *Diamond and Related Materials* 64, 64–69
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