

Prof. Dr. Fedor Jelezko

List of publications, patents

Patents

1. J.-P. Boudou, P. Curmi; A. Thorel, F. Jelezko, M. Sennour, *Method for manufacturing cubic diamond nanocrystals*, Publication number WO2010102977
2. Daniel. Twitchen, J. Dodson, M. Markham, F. Jelezko *Diamond optical element*, US 20130270991
3. A.Thorel, P. Curmi, J.-P. Boudou, F. Jelezko *Photovoltaic cell including fluorescent diamonds*, WO 2013064784
4. F. Jelezko, I. Shwarz, M. Plenio, A. Retzker, *Method for the hyperpolarisation of nuclear spin in a diamond*, WO2014166883A1

Books

1. F. Jelezko, J. Wrachtrup *Single defect centers in diamond* in Physics and Applications of CVD Diamond", Wiley-VCH (2008)
2. F. Jelezko and J. Wrachtrup Quantum Information Processing with Defects in *Quantum Information Processing* , Thomas Beth and Gerd Leuchs (Editors), Wiley-VCH (2006)
3. J. Wrachtrup, T.J. Aartsma, J. Köhler, M. Ketelaars, A.M. van Oijen, M. Matsushita, J. Schmidt, C. Tietz, F. Jelezko *Spectroscopy of Individual Photosynthetic Pigment-Protein Complexes in: Single-Molecule Detection in Solution*, Zander et al.(Editors), Wiley-VCH (2002)
4. F. Jelezko *Single Spins in Diamond: Novel Quantum Devices and Atomic Sensors* in Prati, E., & Shinada, T. *Single-atom nanoelectronics*. Singapore: Pan Stanford Pub. Pte. Lt (2013)
5. P.G. Baranov, H.J. von Bardeleben, F. Jelezko, J. Wrachtrup *Magnetic Resonance of Semiconductors and Their Nanostructures* Springer (2017)

Peer reviewed journals

- (1) Metsch M H, Senkalla K, Tratzmiller B, Scheuer J, Kern M, Achard J, Tallaire A, Plenio M B, Siyushev P & Jelezko **(2019)** Initialization and Readout of Nuclear Spins via a Negatively Charged Silicon-Vacancy Center in Diamond. *Phys. Rev. Lett.* **122**, 190503
- (2) Osterkamp C, Mangold M, Lang J, Balasubramanian P, Teraji T, Naydenov B & Jelezko F **(2019)** Engineering preferentially-aligned nitrogen-vacancy centre ensembles in CVD grown diamond. *Scientific Reports*, 9:5786
- (3) Siyushev P, Nesladek M, Bourgeois E, Gulka M, Hruby J, Yamamoto T, Trupke M, Teraji T, Isoya J & Jelezko F **(2019)** Photoelectrical imaging and coherent spin-state readout of single nitrogen-vacancy centers in diamond. *Science* Vol. 363, Issue 6428, pp. 728-731
- (4) Rogers L J, Wang O, Liu Y, Antoniuk L, Osterkamp C, Davydov V A, Agafonov V N, Filipovski A B, Jelezko F & Kubanek A **(2019)** Single SiV- centers in low-strain

nanodiamonds with bulk-like spectral properties and nano-manipulation capabilities. *Phys. Rev. Applied* 11, 024073

- (5) Rotem A, Gefen T, Oviedo-Casado S, Prior J, Schmitt S, Burak Y, McGuinness L, Jelezko F, & Retzker A **(2019)** Limits on Spectral Resolution Measurements by Quantum Probes. *Physical Review Letters*, 122(6). doi:ARTN 060503
- (6) Choi J, Zhou H Y, Choi S, Landig R, Ho W W, Isoya J, Jelezko F, Onoda S, Sumiya H, Abanin D A, & Lukin M D **(2019)** Probing Quantum Thermalization of a Disordered Dipolar Spin Ensemble with Discrete Time-Crystalline Order. *Physical Review Letters*, 122(4). doi:ARTN 043603
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- (11) 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, Artn 39
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 - (28) Kucsko, G., Choi, S., Choi, J., Maurer, P. C., Zhou, H., Landig, R., Sumiya, H., Onoda, S., Isoya, J., Jelezko, F., Demler, E., Yao, N. Y., & Lukin, M. D. **(2018)** Critical Thermalization of a Disordered Dipolar Spin System in Diamond. *Physical Review Letters*, 121(2). doi:ARTN 023601
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