

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) Joas T, Schmitt S, Santagati R, Gentile A A, Bonato C, Laing A, McGuinness L P & Jelezko F (2021): Online adaptive quantum characterization of a nuclear spin. *npj Quantum Information* (2021)7:56
- (2) Fidler C, Lang J, Osterkamp C, Nesladek M & Jelezko F (2020): Indirect overgrowth as a synthesis route for superior diamond nano sensors. *Scientific Reports* volume 10, Article number: 22404
- (3) Osterkamp C, Balasubramanian P, Wolff G, Teraji T, Nesladek M & Jelezko F (2020): Benchmark for Synthesized Diamond Sensors Based on Isotopically Engineered Nitrogen-Vacancy Spin Ensembles for Magnetometry Applications. *Advanced Quantum Technologies* 2000074
- (4) Mindarava Y, Blinder R, Laube C, Knolle W, Abel B, Jentgens C, Isoay J, Scheuer J, Lang J, Schwartz I, Naydenov B & Jelezko F (2020): Efficient conversion of nitrogen to

- nitrogen-vacancy centers in diamond particles with high-temperature electron irradiation. *Carbon*, Volume 170, 182-190
- (5) Genov G T, Ben-Shalom Y, Jelezko F, Retzker A & Bar-Gill N (2020): Efficient and robust signal sensing by sequences of adiabatic chirped pulses. *PhysRevResearch* 2, 033216
 - (6) Mindarava Y, Blinder R, Liu Y, Scheuer J, Lang J, Agafonov V, Davydov V A, Laube C, Knolle W, Abel B, Naydenov B & Jelezko F (2020): Synthesis and coherent properties of ^{13}C -enriched sub-micron diamond particles with nitrogen vacancy color centers. *Carbon*, Volume 65, 395-403
 - (7) Lang J, Häußler S, Fuhrmann J, Waltrich R, Laddha S, Scharpf J, Kubanek A, Naydenov B & Jelezko F (2020): Long optical coherence times of shallow-implanted, negatively charged silicon vacancy centers in diamond. *Applied Physics Letters* 116, 064001
 - (8) Häußler S, Hartung L, Fehler K G, Antoniuk L, Kulikova L F, Davydov V A, Agafonov V N, Jelezko F & Kubanek A (2019): Preparing single SiV^- center in nanodiamonds for external, optical coupling with access to all degrees of freedom. *New Journal of Physics* 21, 103047
 - (9) Lee C W Y, Cheng J, Yiu Y C, Chan K, Lau D, Tang W C, Cheng K W, Kong T, Hui T K C & Jelezko F (2020): Correlation between EPR spectra and coloration of natural diamonds. *Diamond & Related Materials*, Volume 103, 107728
 - (10) Genov G T, Aharon N, Jelezko F & Retzker A (2019) Mixed dynamical decoupling. *Quantum Science and Technology*, Volume 4, Number 3
 - (11) 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
 - (12) 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
 - (13) 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
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