

Alexander Tartakovskii, CV

Professional experience

01/2014 - current	Professor of Solid State Physics, Department of Physics and Astronomy (P&A), University of Sheffield (UoS)
2014-2019	Departmental Director of Research (P&A, UoS)
01/2011 - 01/2014	Reader in Experimental Semiconductor Physics (P&A, UoS)
08/2010 - 01/2011	Senior Lecturer (P&A, UoS)
01/2009 - 08/2010	Senior Research Fellow (P&A, UoS)
08/2005 - 08/2010	EPSRC Advanced Research Fellow (P&A, UoS)
03/2001 – 08/2005	Research Associate and Research Fellow (P&A, UoS), adviser Prof MS Skolnick
1999-2000	Visiting Researcher (P&A, UoS), adviser Prof MS Skolnick
1999-2001	Staff scientist, Institute of Solid State Physics, Chernogolovka, Russia
1997	Visiting Researcher, Technische Physik, Universität Würzburg, advisers Prof A Forchel and Dr M Bayer

Education

1996-1999	PhD in Solid State Physics, Institute of Solid State Physics, Chernogolovka, Russia, adviser Prof VD Kulakovskii
1990 - 1996	Diploma in physics and applied maths (Masters equivalent), Moscow Institute of Physics and Technology, Moscow, Russia, project adviser Prof VD Kulakovskii
2010-2013	Certificate in Learning and Teaching, University of Sheffield

Awards

2005	EPSRC Advanced Research Fellowship (2005-10), £300k
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Scientific publications, invited conference talks and seminars

- 105 original and 35 conference peer-reviewed journal publications including 1 Nature, 3 Nature Materials, 2 Nature Physics, 1 Nature Photonics, 1 Nature Nanotechnology, 6 Nature Communications, 5 Nano Letters, 1 Advanced Materials, 7 Physical Review Letters, 37 Physical Review B, 9 Applied Physics Letters etc

- Editor of 'Quantum Dots: Optics, Electron Transport and Future Applications', Cambridge University Press (2012)

- 60 invited talks at international conferences; 30 invited seminars at research institutions

- Google scholar: h-index 42, 7100 citations, 20 papers cited more than 100 times

- Web of science: h-index 35, 4500 citations, 11 papers cited more than 100 times

Research funding

Engineering and Physical Sciences Research Council:

- PI on 4 grants, total value £3.3M, including £1.2M grant on polaritons in 2D materials (2017-20) and £1.4M Centre-to-Centre with TU Dortmund (Prof M Bayer)

- Co-I and WP leader on 3 Sheffield's Programme Grants (2008-2021) with total value £13.6M, up to 25% applicable to AT

European Commission (Marie Curie ITNs, Graphene Flagship):

- Coordinator and organiser of two Marie (Skłodowska) Curie ITNs under FP7 and H2020: S³NANO (2012-15) and Spin-NANO (2016-2019); 8M€ total
- Node coordinator in ITNs SPINOPTRONICS (2009-12) and 4PHOTON (2017-2020)
- Total to Sheffield from ITNs: £1.4M
- PI on three Graphene Flagship projects (2016-23, the only group in Sheffield): £1M

Royal Society: International exchange grants, £70k (with Japan, Turkey, Russia)

CONACYT Mexico: 2x PhD studentships, £70k

Research group in 2D Materials at UoS

- Current activities: group of 4 postdocs and 3 PhD students working on optics of 2D materials. Projects include sub-wavelength all-dielectric nano-photonics, optical manifestations of the quantum physics of moiré superlattices in van der Waals heterostructures, strong light-matter interaction in van der Waals 2D materials, nano-magnetism in atomically thin 2D quantum materials and their heterostructures.

Graduated PhD students

12 PhD students since 2008. Destinations include Toshiba Research Europe (Cambridge), NPL (London), RIKEN (Tokyo), UASLP (San Luis Potosí), University of Glasgow, TU Munich, Huawei (UK), Intel (Ireland)

Notable external positions

- Member of Programme Committees for many international conferences including CLEO Europe/EQEC (2017, 2019, 2021), several International Conferences on Quantum Dots (2018, 2016, 2014, 2012), International Conference on Modulated Semiconductor Structures (2013) etc.
- Organiser and Programme Chair of the 6th International Conferences on Quantum Dots (2010, 350 attendees); organiser of Winter School on “Few spin solid state nano-systems” (2013), Nanophotonics Winter School in Sheffield (2020), and several IoP Quantum Dot Days (2009-2014).
- Editorial Board Member for Scientific Reports (2015-2019)
- Editor of a book “Quantum Dots: Optics, Electron Transport and Future Applications”, Cambridge University Press (2012)

Notable positions at University of Sheffield

- Departmental Director of Research at the Department of Physics and Astronomy (P&A) (2014-19)
- Member of the Executive Committee at P&A (2014-19)
- Chair of the Research Committee at P&A (2014-19)
- Member of the Research and Innovation Committee at the Faculty of Science (2014-19)

Teaching experience

- Undergraduate physics teaching at UoS since 2006, level 1-4 and Master courses.
- Current teaching duties: lecture modules ‘Semiconductor Physics and Technology’ (level 3&4, MPhys), ‘Magnetic Resonance: Principles and applications’ (level 4, MPhys); level 1 physics tutorials; level 3&4 physics research projects
- Certificate in Learning and Teaching, University of Sheffield (<http://www.sheffield.ac.uk/lts/cpd/cilt>), 2011

Selected publications (see full publication list below)

1. E. M. Alexeev, D. A. Ruiz-Tijerina, M. Danovich, M. J. Hamer, D. J. Terry, P. K. Nayak, S. Ahn, S. Pak, J. Lee, J. I. Sohn, M. R. Molas, M. Koperski, K. Watanabe, T. Taniguchi, K. S. Novoselov, R. V. Gorbachev, H. S. Shin, V. I. Fal'ko & A. I. Tartakovskii, "Resonantly hybridized excitons in moiré superlattices in van der Waals heterostructures", *NATURE* 567, 81 (2019).
2. L. Sortino, P. G. Zotev, S. Mignuzzi, J. Cambiasso, D. Schmidt, A. Genco, M. Aßmann, M. Bayer, S. A. Maier, R. Sapienza, A. I. Tartakovskii, "Enhanced light-matter interaction in an atomically thin semiconductor coupled with dielectric nano-antennas", *NATURE COMMUNICATIONS* 10, 5119 (2019).
3. M.-E. Kleemann, R. Chikkaraddy, E. M. Alexeev, D. Kos, C. Carnegie, W. Deacon, A. Casalis de Pury, C. Große, B. de Nijs, J. Mertens, A. I. Tartakovskii, J. J. Baumberg, "Strong-coupling of WSe₂ in ultra-compact plasmonic nanocavities at room temperature", *NATURE COMMUNICATIONS* 8, 1296 (2017).
4. S. Dufferwiel, T. P. Lyons, D. D. Solnyshkov, A. A. P. Trichet, F. Withers, S. Schwarz, G. Malpuech, J. M. Smith, K. S. Novoselov, M. S. Skolnick, D. N. Krizhanovskii, A. I. Tartakovskii, "Valley addressable polaritons in atomically thin semiconductors", *NATURE PHOTONICS* 11, 497 (2017).
5. E. Alexeev, A. Catanzaro, O. Skrypka, P. Nayak, S. Ahn, S. Pak, J. Lee, J. I. Sohn; K. Novoselov; H. S. Shin, A. Tartakovskii, "Imaging of interlayer coupling in van der Waals heterostructures using a bright-field optical microscope", *NANO LETTERS*, 17, 5342 (2017).
6. P. Tonndorf, O. Del Pozo Zamudio, N. Gruhler, J. Kern, R. Schmidt, A. I. Dmitriev, A. P. Bakhtinov, A. I. Tartakovskii, W. H. P. Pernice, S. Michaelis de Vasconcellos, R. Bratschitsch, "On-chip waveguide coupling of a layered semiconductor single-photon source", *NANO LETTERS*, 17, 5446 (2017).
7. A. M. Waeber, M. Hopkinson, I. Farrer, D. A. Ritchie, J. Nilsson, R. M. Stevenson, A. J. Bennett, A. J. Shields, G. Burkard, A. I. Tartakovskii, M. S. Skolnick, E. A. Chekhovich, "Few-second-long correlation times in a quantum dot nuclear spin bath probed by frequency-comb nuclear magnetic resonance spectroscopy", *NATURE PHYSICS* 12, 688 (2016).
8. S. Dufferwiel, S. Schwarz, F. Withers, A. A. P. Trichet, F. Li, M. Sich, O. Del Pozo-Zamudio, C. Clark, A. Nalitov, D.D. Solnyshkov, G. Malpuech, K. S. Novoselov, J. M. Smith, M. S. Skolnick, D. N. Krizhanovskii, A. I. Tartakovskii, "Exciton-polaritons in van der Waals heterostructures embedded in tunable microcavities", *NATURE COMMUNICATIONS*, 6, 8579 (2015).
9. F. Withers, O. Del Pozo-Zamudio, S. Schwarz, S. Dufferwiel, P. M. Walker, T. Godde, A. P. Rooney, A. Gholinia, C. R. Woods, P. Blake, S. J. Haigh, K. Watanabe, T. Taniguchi, I. L. Aleiner, A. K. Geim, V. I. Fal'ko, A. I. Tartakovskii, K. S. Novoselov, "WSe₂ Light-Emitting Tunneling Transistors with Enhanced Brightness at Room Temperature", *NANO LETTERS*, 15, 8223 (2015).
10. F. Withers, O. Del Pozo-Zamudio, A. Mishchenko, A. P. Rooney, A. Gholinia, K. Watanabe, T. Taniguchi, S. J. Haigh, A. K. Geim, A. I. Tartakovskii, K. S. Novoselov, "Light-emitting diodes by band-structure engineering in van der Waals heterostructures", *NATURE MATERIALS*, 14, 301 (2015).
11. S. Schwarz, S. Dufferwiel, P. M. Walker, F. Withers, A. A. P. Trichet, M. Sich, F. Li, E. A. Chekhovich, D. N. Borisenko, N. N. Kolesnikov, K. S. Novoselov, M. S. Skolnick, J. M. Smith, D. N. Krizhanovskii, A. I. Tartakovskii, "Two-Dimensional Metal-Chalcogenide Films in Tunable Optical Microcavities", *NANO LETTERS*, 14, 7003 (2014).
12. E. A. Chekhovich, M. N. Makhonin, A. I. Tartakovskii, A. Yacoby, H. Bluhm, K. C. Nowack, L. M. K. Vandersypen "Nuclear spin effects in semiconductor quantum dots", *NATURE MATERIALS*, 12, 494 (2013).
13. E. A. Chekhovich, M. M. Glazov, A. B. Krysa, M. Hopkinson, P. Senellart, A. Lemaître, M. S. Skolnick, A. I. Tartakovskii, "Element-sensitive measurement of the hole–nuclear spin interaction in quantum dots", *NATURE PHYSICS*, 9, 74 (2013).

Full list of publications

The list includes peer-reviewed articles and excludes about 35 conference proceeding papers. In summary the list includes 1 Nature, 3 Nature Materials, 2 Nature Physics, 1 Nature Photonics, 1 Nature Nanotechnology, 6 Nature Communications, 5 Nano Letters, 1 Advanced Materials, 7 Physical Review Letters, 37 Physical Review B and 9 Applied Physics Letters publications

1. T. Severs Millard, A. Genco, E. M. Alexeev, S. Randerson, S. Ahn, A-R. Jang, H. S. Shin, A. I. Tartakovskii, "Large area chemical vapour deposition grown transition metal dichalcogenide monolayers automatically characterized through photoluminescence imaging", NPJ 2D MATERIALS AND APPLICATIONS 4, 12 (2020).
2. O. Del Pozo-Zamudio, A. Genco, S. Schwarz, F. Withers, P. M. Walker, T. Godde, R. C. Schofield, A. P. Rooney, E. Prestat, K. Watanabe, T. Taniguchi, C. Clark, S. J. Haigh, D. N. Krizhanovskii, K. S. Novoselov, A. I. Tartakovskii, "Electrically pumped WSe₂-based light-emitting van der Waals heterostructures embedded in monolithic dielectric microcavities", 2D MATERIALS 7 (2020).
3. D. Polak, R. Jayaprakash, T. P. Lyons, L. Á. Martínez-Martínez, A. Leventis, K. J. Fallon, H. Coulthard, D. G. Bossanyi, K. Georgiou, A. J. Petty, J. Anthony, H. Bronstein, J. Yuen-Zhou, A. I. Tartakovskii, J. Clark, A. J. Musser, "Manipulating molecules with strong coupling: harvesting triplet excitons in organic exciton microcavities", CHEMICAL SCIENCE 11, 343-354 (2020).
4. V. Kravtsov, E. Khestanova, F. A. Benimetskiy, T. Ivanova, A. K. Samusev, I. S. Sinev, D. Pidgayko, A. M. Mozharov, I. S. Mukhin, M. S. Lozhkin, Y. V. Kapitonov, A. S. Brichkin, V. D. Kulakovskii, I. A. Shelykh, A. I. Tartakovskii, P. M. Walker, M. S. Skolnick, D. N. Krizhanovskii, I. V. Iorsh, "Nonlinear polaritons in a monolayer semiconductor coupled to optical bound states in the continuum", LIGHT: SCIENCE & APPLICATIONS 9, 56 (2020).
5. F. A. Benimetskiy, V. A. Sharov, P. A. Alekseev, V. Kravtsov, K. B. Agapev, I. S. Sinev, I. S. Mukhin, A. Catanzaro, R. G. Polozkov, E. M. Alexeev, A. I. Tartakovskii, A. K. Samusev, M. S. Skolnick, D. N. Krizhanovskii, I. A. Shelykh, I. V. Iorsh, "Measurement of local optomechanical properties of a direct bandgap 2D semiconductor", APL MATERIALS 7, 101126 (2019).
6. L. Sortino, P. G. Zotev, S. Mignuzzi, J. Cambiasso, D. Schmidt, A. Genco, M. Aßmann, M. Bayer, S. A. Maier, R. Sapienza, A. I. Tartakovskii, "Enhanced light-matter interaction in an atomically thin semiconductor coupled with dielectric nano-antennas", NATURE COMMUNICATIONS 10, 5119 (2019).
7. B. G. Freestone, J. A. Smith, G. Piana, R. C. Kilbride, A. J. Parnell, L. Sortino, D. M. Coles, O. B. Ball, N. Martsinovich, C. J. Thompson, T. I. Alanazi, O. S. Game, A. I. Tartakovskii, P. Lagoudakis, D. G. Lidzey, "Low-dimensional emissive states in non-stoichiometric methylammonium lead halide perovskites", JOURNAL OF MATERIALS CHEMISTRY A 7, 11104 (2019).
8. T. P. Lyons, S. Dufferwiel, M. Brooks, F. Withers, T. Taniguchi, K. Watanabe, K. S. Novoselov, G. Burkard & A. I. Tartakovskii, "The valley Zeeman effect in inter- and intra-valley trions in monolayer WSe₂", NATURE COMMUNICATIONS 10, 2330 (2019).
9. E. M. Alexeev, D. A. Ruiz-Tijerina, M. Danovich, M. J. Hamer, D. J. Terry, P. K. Nayak, S. Ahn, S. Pak, J. Lee, J. I. Sohn, M. R. Molas, M. Koperski, K. Watanabe, T. Taniguchi, K. S. Novoselov, R. V. Gorbachev, H. S. Shin, V. I. Fal'ko & A. I. Tartakovskii, "Resonantly hybridized excitons in moiré superlattices in van der Waals heterostructures", NATURE 567, 81 (2019).
10. S. Dufferwiel, T. P. Lyons, D. D. Solnyshkov, A. A. P. Trichet, A. Catanzaro, F. Withers, G. Malpuech, J. M. Smith, K. S. Novoselov, M. S. Skolnick, D. N. Krizhanovskii & A. I. Tartakovskii, "Valley coherent exciton-polaritons in a monolayer semiconductor", NATURE COMMUNICATIONS 9, 4797 (2018).

11. M.-E. Kleemann, R. Chikkaraddy, E. M. Alexeev, D. Kos, C. Carnegie, W. Deacon, A. Casalis de Pury, C. Große, B. de Nijs, J. Mertens, A. I. Tartakovskii, J. J. Baumberg, "Strong-coupling of WSe₂ in ultra-compact plasmonic nanocavities at room temperature", NATURE COMMUNICATIONS 8, 1296 (2017).
12. S. Dufferwiel, T. P. Lyons, D. D. Solnyshkov, A. A. P. Trichet, F. Withers, S. Schwarz, G. Malpuech, J. M. Smith, K. S. Novoselov, M. S. Skolnick, D. N. Krizhanovskii, A. I. Tartakovskii, "Valley addressable polaritons in atomically thin semiconductors", NATURE PHOTONICS 11, 497 (2017).
13. E. Alexeev, A. Catanzaro, O. Skrypka, P. Nayak, S. Ahn, S. Pak, J. Lee, J. I. Sohn; K. Novoselov; H. S. Shin, A. Tartakovskii, "Imaging of interlayer coupling in van der Waals heterostructures using a bright-field optical microscope", NANO LETTERS 17, 5342 (2017).
14. P. Tonndorf, O. Del Pozo Zamudio, N. Gruhler, J. Kern, R. Schmidt, A. I. Dmitriev, A. P. Bakhtinov, A. I. Tartakovskii, W. H. P. Pernice, S. Michaelis de Vasconcellos, R. Bratschitsch, "On-chip waveguide coupling of a layered semiconductor single-photon source", NANO LETTERS 17, 5446 (2017).
15. L. Scarpelli, F. Masia, E. M. Alexeev, F. Withers, A. I. Tartakovskii, K. S. Novoselov, W. Langbein, "Resonantly excited exciton dynamics in two-dimensional MoSe₂ monolayers", PHYSICAL REVIEW B 96, 045407 (2017).
16. P. Tonndorf, S. Schwarz, J. Kern, I. Niehues, O. Del Pozo Zamudio, A. Dmitriev, A. Bakhtinov, D. Borisenko, N. Kolesnikov, A. I. Tartakovskii, S. Michaelis de Vasconcellos, R. Bratschitsch, "Single-photon emitters in GaSe", 2D MATERIALS, 4, 2 (2017).
17. T. Godde, D. Schmidt, J. Schmutzler, M. Aßmann, J. Debus, F. Withers, E. M. Alexeev, O. Del Pozo-Zamudio, O. V. Skrypka, K. S. Novoselov, M. Bayer, A. I. Tartakovskii, "Exciton and trion dynamics in atomically thin MoSe₂ and WSe₂: Effect of localization", PHYSICAL REVIEW B 94, 165301 (2016).
18. S. Schwarz, A. Kozikov, F. Withers, J. K. Maguire, A. P. Foster, S. Dufferwiel, L. Hague, M. N. Makhonin, L. R. Wilson, A. K. Geim, K. S. Novoselov, A. I. Tartakovskii, "Electrically pumped single-defect light emitters in WSe₂", 2D MATERIALS, 3, 025038 (2016).
19. A. M. Waeber, M. Hopkinson, I. Farrer, D. A. Ritchie, J. Nilsson, R. M. Stevenson, A. J. Bennett, A. J. Shields, G. Burkard, A. I. Tartakovskii, M. S. Skolnick, E. A. Chekhovich, "Few-second-long correlation times in a quantum dot nuclear spin bath probed by frequency-comb nuclear magnetic resonance spectroscopy", NATURE PHYSICS 12, 688 (2016).
20. A. Ulhaq, Q. Duan, E. Zallo, F. Ding, O. G. Schmidt, A. I. Tartakovskii, M. S. Skolnick, and E. A. Chekhovich, "Vanishing electron g factor and long-lived nuclear spin polarization in weakly strained nanohole-filled GaAs/AlGaAs quantum dots", PHYSICAL REVIEW B 93, 165306 (2016).
21. F. Withers, O. Del Pozo-Zamudio, S. Schwarz, S. Dufferwie, P. M. Walker, T. Godde, A. P. Rooney, A. Gholinia, C. R. Woods, P. Blake, S. J. Haigh, K. Watanabe, T. Taniguchi, I. L. Aleiner, A. K. Geim, V. I. Fal'ko, A. I. Tartakovskii, K. S. Novoselov, "WSe₂ Light-Emitting Tunneling Transistors with Enhanced Brightness at Room Temperature", NANO LETTERS, 15, 8223 (2015).
22. S. Dufferwiel, S. Schwarz, F. Withers, A. A. P. Trichet, F. Li, M. Sich, O. Del Pozo-Zamudio, C. Clark, A. Nalitov, D.D. Solnyshkov, G. Malpuech, K. S. Novoselov, J. M. Smith, M. S. Skolnick, D. N. Krizhanovskii, A. I. Tartakovskii, "Exciton-polaritons in van der Waals heterostructures embedded in tunable microcavities", NATURE COMMUNICATIONS, 6, 8579 (2015);
23. O. Del Pozo-Zamudio, S. Schwarz, M. Sich, I. A. Akimov, M. Bayer, R. C. Schofield, E. A. Chekhovich, B. J. Robinson, N. D. Kay, O. V. Kolosov, A. I. Dmitriev, G. V. Lashkarev, D. N. Borisenko, N. N. Kolesnikov, A. I. Tartakovskii, "Photoluminescence of two-dimensional GaTe and GaSe films", 2D Materials, 2, 035010 (2015);
24. F. Withers, O. Del Pozo-Zamudio, A. Mishchenko, A. P. Rooney, A. Gholinia, K. Watanabe, T. Taniguchi, S. J. Haigh, A. K. Geim, A. I. Tartakovskii, K. S. Novoselov, "Light-emitting diodes by

- band-structure engineering in van der Waals heterostructures", *NATURE MATERIALS*, 14, 301 (2015);
25. E. A. Chekhovich, M. Hopkinson, M. S. Skolnick, A. I. Tartakovskii, "Suppression of nuclear spin bath fluctuations in self-assembled quantum dots induced by inhomogeneous strain", *NATURE COMMUNICATIONS*, 6, 6348 (2015);
 26. S. J. Haigh, A. P. Rooney, E. Prestat, F. Withers, O. Del Pozo Zamudio, A. Mishchenko, A. Gholinia, K. Watanabe, T. Taniguchi, A. I. Tartakovskii, A. K. Geim, K. S. Novoselov, "Cross sectional STEM imaging and analysis of multilayered two dimensional crystal heterostructure devices", *MICROSCOPY AND MICROANALYSIS* 21, 107 (2015)
 27. B. Pingault, J. N. Becker, C. H. H. Schulte, C. Arend, C. Hepp, T. Godde, A. I. Tartakovskii, M. Markham, C. Becher, M. Atature, "All-Optical Formation of Coherent Dark States of Silicon-Vacancy Spins in Diamond", *PHYSICAL REVIEW LETTERS*, 113, 263601 (2014);
 28. S. Schwarz, S. Dufferwiel, P. M. Walker, F. Withers, A. A. P. Trichet, M. Sich, F. Li, E. A. Chekhovich, D. N. Borisenko, N. N. Kolesnikov, K. S. Novoselov, M. S. Skolnick, J. M. Smith, D. N. Krizhanovskii, A. I. Tartakovskii, "Two-Dimensional Metal-Chalcogenide Films in Tunable Optical Microcavities", *NANO LETTERS*, 14, 7003 (2014);
 29. C. Bulutay, E. A. Chekhovich, A. I. Tartakovskii, "Nuclear magnetic resonance inverse spectra of InGaAs quantum dots: Atomistic level structural information", *PHYSICS REVIEW B*, 90, 205425 (2014);
 30. D. Sercombe, S. Schwarz, O. Del Pozo-Zamudio, F. Liu, B. J. Robinson, E. A. Chekhovich, I. I. Tartakovskii, O. Kolosov, A. I. Tartakovskii, "Optical investigation of the natural electron doping in thin MoS2 films deposited on dielectric substrates", *SCIENTIFIC REPORTS*, 3, 3489 (2013);
 31. E. A. Chekhovich, M. N. Makhonin, A. I. Tartakovskii, A. Yacoby, H. Bluhm, K. C. Nowack, L. M. K. Vandersypen "Nuclear spin effects in semiconductor quantum dots", *NATURE MATERIALS*, 12, 494 (2013);
 32. J. Puebla, E. A. Chekhovich, M. Hopkinson, P. Senellart, A. Lemaître, M. S. Skolnick, and A. I. Tartakovskii, "Dynamic nuclear polarization in InGaAs/GaAs and GaAs/AlGaAs quantum dots under nonresonant ultralow-power optical excitation", *PHYSICAL REVIEW B* 88, 045306 (2013);
 33. I. J. Luxmoore, R. Toro, O. Del Pozo-Zamudio, N. A. Wasley, E. A. Chekhovich, A. M. Sanchez, R. Beanland, A. M. Fox, M. S. Skolnick, H. Y. Liu, A. I. Tartakovskii, "III-V quantum light source and cavity-QED on Silicon", *SCIENTIFIC REPORTS*, 3, 1239 (2013);
 34. E. A. Chekhovich, M. M. Glazov, A. B. Krysa, M. Hopkinson, P. Senellart, A. Lemaître, M. S. Skolnick, A. I. Tartakovskii, "Element-sensitive measurement of the hole-nuclear spin interaction in quantum dots", *NATURE PHYSICS*, 9, 74 (2013);
 35. O. D. D. Couto, Jr., D. Sercombe, J. Puebla, L. Otubo, I. J. Luxmoore, M. Sich, T. J. Elliott, E. A. Chekhovich, L. R. Wilson, M. S. Skolnick, H.Y. Liu, A. I. Tartakovskii, "Effect of a GaAsP Shell on the Optical Properties of Self-Catalyzed GaAs Nanowires Grown on Silicon", *NANO LETTERS*, 12, 5269 (2012);
 36. E. A. Chekhovich, K. V. Kavokin, J. Puebla, A. B. Krysa, M. Hopkinson, A. D. Andreev, A. M. Sanchez, R. Beanland, M. S. Skolnick, A. I. Tartakovskii, "Structural analysis of strained quantum dots using nuclear magnetic resonance", *NATURE NANOTECHNOLOGY*, 7, 646 (2012);
 37. I. J. Luxmoore, E. D. Ahmadi, B. J. Luxmoore, N. A. Wasley, A. I. Tartakovskii, M. Hugues, M. S. Skolnick, A. M. Fox, "Restoring mode degeneracy in H1 photonic crystal cavities by uniaxial strain tuning", *APPLIED PHYSICS LETTERS*, 100, 121116 (2012);
 38. O. Makarovskiy, E. E. Vdovin, A. Patane, L. Eaves, M. N. Makhonin, A. I. Tartakovskii, M. Hopkinson, "Laser Location and Manipulation of a Single Quantum Tunneling Channel in an InAs Quantum Dot", *PHYSICAL REVIEW LETTERS*, 108, 117402 (2012);

39. M. N. Makhonin, K. V. Kavokin, P. Senellart, A. Lemaître, A. J. Ramsay, M. S. Skolnick, A. I. Tartakovskii, "Fast control of nuclear spin polarization in an optically pumped single quantum dot", *NATURE MATERIALS* **10**, 844 (2011);
40. O. D. D. Couto, Jr., J. Puebla, E. A. Chekhovich, I. J. Luxmoore, C. J. Elliott, N. Babazadeh, M. S. Skolnick, A. I. Tartakovskii, and A. B. Krysa, "Charge control in InP/(Ga,In)P single quantum dots embedded in Schottky diodes", *PHYSICAL REVIEW B* **84**, 125301 (2011);
41. E. A. Chekhovich, A. B. Krysa, M. S. Skolnick, A. I. Tartakovskii, "Light-polarization-independent nuclear spin alignment in a quantum dot", *PHYSICAL REVIEW B* **83**, 125318 (2011);
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