

LIST OF PATENTS

1. **Device and method for generating and detecting a transient magnetization of a sample**
J Anders, K Lips
US Patent App. 15/779,104 (2019)
2. **Device for generating and detecting a magnetic resonance of a sample**
J Anders, K Lips, M Ortmanns
US Patent App. 15/779,100 (2019)
3. **Vorrichtung zur Erzeugung und Detektion einer magnetischen Resonanz einer Probe**
Patent application: Inventors: J. Anders, K. Lips, M. Ortmanns
Submitted 08.02.2016
4. **Vorrichtung und Verfahren zur Erzeugung und Detektion einer transienten Magnetisierung einer Probe**
Patent Nr. DE 102015120644
Inventors: J. Anders, K. Lips
Submitted 27.11.2015
5. **Thin-film solar module contacted on one side and having an inner contact layer**
Patent US 8884154
Inventors: R. Stangl, K. Lips, B. Rech
6. **Einseitig kontaktiertes Dünnschicht-Solarmodul mit einer inneren Kontaktschicht**
Patent EP 2 308 090 B1
Inventors: R. Stangl, K. Lips, B. Rech
Submitted 11.7.2009
7. **Verfahren zur Herstellung einer einseitig kontaktierten Dünnschicht-Solarzelle und eines serienverschalteten Dünnschicht-Solarmoduls**
Patent DE 10 2008 035327
Inventors: R. Stangl, K. Lips, B. Rech
Submitted 30.7.2008
8. **Verfahren und Vorrichtung zur nicht invasiven Untersuchung eines Objekts**
Patent 10 2005 017 818
Inventors: K. Lips, C. Böhme, M. Hoheisel, B. Scholz
Submitted 18.4.2006
9. **Verfahren und Vorrichtung zur Untersuchung eines biologischen Gewebes**
Patent 10 2005 017 817
Inventors: K. Lips, C. Böhme, M. Hoheisel, B. Scholz
Submitted 18.4.2006
10. **Verfahren zur Herstellung einer einseitig kontaktierten Solarzelle und einseitig kontaktierte Solarzelle**
Patent 10 2005 025 125
Inventors: R. Stangl, K. Lips, M. Schmidt, J. Schneider
Submitted 29.5.2005
11. **Verfahren zur Herstellung eines Feststoff-Polymer-Lasermediums**
Patent 10 2004 038 307
Inventors: V. Kytin; I. Kytina; K. Lips
Submitted 4.8.2004
12. **Verfahren zur Herstellung und zum Betreiben eines Farbstoff-Polymer-Lasermediums und Anordnung zu dessen Implementierung in einem Aufbau zur Lichtverstärkung**
Patent 102 43 845
Inventors: V. Kytin; I. Kytina; K. Lips
Submitted on 10.9.2002
13. **Verfahren und Anordnung zur Messung von zeitaufgelösten spinabhängigen Rekombinationsprozessen in organischen und anorganischen Halbleitern**
Patent 101 47 460
Inventors: C. Böhme, K. Lips
Submitted on 20.9.2001

LIST OF PUBLICATIONS AS OF 21.04.2021

Goggle Scholar:

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2021

1. Imaging of bandtail states in silicon heterojunction solar cells
MY Teferi, H Malissa, AB Morales-Vilches, CT Trinh, L Korte, B Stannowski, CC Williams, C Boehme, K Lips
ACS Appl. Nano Mater. 2021, 4, 3, 2404–2412
<https://doi.org/10.1021/acsnm.0c02704>
2. Relaxation processes in silicon heterojunction solar cells electrode layers probed via noise spectroscopy
K Davenport, M Hayward, CT Trinh, K Lips, A Rogachev
accepted for publication in Nature Scientific Reports

2020

3. Quantification of nanoscale density fluctuations in hydrogenated amorphous silicon
E Gericke, J Melskens, R Wendt, M Wollgarten, A Hoell, K Lips
Physical Review Letters 125 (18) (2020) 185501
4. Energy-Level Alignment Tuning at Tetracene/c-Si Interfaces
J Niederhausen, RW MacQueen, E Özkol, C Gersmann, MH Futscher, M. Liebhaber, D. Friedrich, M. Borgwardt, K.A Mazzio, P. Amsalem, Minh Hai Nguyen, B. Daiber, M. Mews, J. Rappich, F. Ruske, R. Eichberger, B. Ehrler, K. Lips
J. Phys. Chem. C 2020, 124, 51, 27867–27881
<https://doi.org/10.1021/acs.jpcc.0c08104>
5. Interdependence of photon upconversion performance and antisolvent processing in thin-film halide perovskite-sensitized triplet–triplet annihilators
K. Prashanthan, B. Naydenov, K. Lips, E. Unger, R.W. MacQueen
The Journal of Chemical Physics 153 (16), 164711
<https://doi.org/10.1063/5.0026564>
6. Imaging of bandtail states in silicon heterojunction solar cells
MY Teferi, H Malissa, AB Morales-Vilches, CT Trinh, L Korte, B Stannowski, CC Williams, C Boehme, K Lips
arXiv preprint arXiv:2008.11413 (2020)
7. Silicon heterojunction solar cells explored via noise spectroscopy: spatial selectivity and the influence of a-Si passivating layers
K Davenport, M Hayward, CT Trinh, K Lips, A Rogachev
arXiv preprint arXiv:2008.08702 (2020)
8. Tetracene ultrathin film growth on hydrogen-passivated silicon
J Niederhausen, RW MacQueen, K Lips, H Aldahhak, WG Schmidt, U. Gerstmann
Langmuir 36 (31), 9099-911
9. Tetracene ultrathin film growth on silicon
J Niederhausen, H Aldahhak, RW MacQueen, WG Schmidt, U Gerstmann, K. Lips
arXiv preprint arXiv:2004.08562
- 10.

2019

11. [Comparison of Different Precision Pseudo Resistor Realizations in the DC-Feedback of Capacitive Transimpedance Amplifiers](#)
Matthias Häberle, Denis Djekic, Mahdi Rajabzadeh, Georg E Fantner, Klaus Lips, Maurits Ortmanns,

Jens Anders

(2019) 26th IEEE International Conference on Electronics, Circuits and Systems (ICECS), 699-702

12. MR to go
J Anders, K Lips
Journal of Magnetic Resonance 306, (2019) 118-123
13. Crystallinity and Size Control of Colloidal Germanium Nanoparticles from Organogermanium Halide Reagents
B Pescara, KA Mazzio, K Lips, S Raoux
Inorganic chemistry 58 (8) (2019) 4802-4811
14. Towards low-cost, high-sensitivity point-of-care diagnostics using VCO-based ESR-on-a-chip detectors, B. Schlecker, A. Hoffmann, A. Chu, M. Ortmanns, K. Lips and J. Anders, IEEE Sensors Journal, vol. 19, no. 20, pp. 8995-9003, 15 Oct.15, 2019.

2018

15. [Reaction of porphyrin-based surface-anchored metal-organic frameworks to prolonged illumination](#)
M. Adams, N. Baroni, M. Oldenburg, F. Kraffert, J. Behrends, R.W. Mac-Queen, R. Haldar, D. Busko, A. Turshatov, G. Emandi, M.O. Senge, C. Wöll, K. Lips, B.S. Richards, IA. Howard
Physical chemistry, chemical physics, 20, (2018) 29142–29151. [doi:10.1039/C8CP05254A](https://doi.org/10.1039/C8CP05254A)
16. [An Integrator-Differentiator TIA Using a Multi-Element Pseudo-Resistor in its DC Servo Loop for Enhanced Noise Performance](#)
M Häberle, D Djekic, GE Fantner, K Lips, M Ortmanns, J Anders
ESSCIRC 2018-IEEE 44th European Solid State Circuits Conference (ESSCIRC) (2018) 294-297
17. [Towards IC-based quantum sensing-recent achievements and future research trends](#)
J Anders, T Pfau, J Wrachtrup, MB Plenio, F Jelezko, K Lips
2018 48th European Solid-State Device Research Conference (ESSDERC), 122-125
18. Crystalline silicon solar cells with tetracene interlayers: the path to silicon-singlet fission heterojunction devices
R.W. MacQueen, M. Liebhaber, J. Niederhausen, M.J.Y. Tayebjee, C. Gersmann, M. Mews, S. Jäckle, K. Jäger, B. Rech, T.W. Schmidt, K. Lips
Materials Horizon 5 (2018) 1065-1075
19. [A 0.1% THD, 1-M \$\Omega\$ to 1-G \$\Omega\$ Tunable, Temperature-Compensated Transimpedance Amplifier Using a Multi-Element Pseudo-Resistor](#)
D Djekic, G Fantner, K Lips, M Ortmanns, J Anders
IEEE Journal of Solid-State Circuits 53 (2018) 1913.
20. [An 8-channel 13GHz ESR-on-a-Chip injection-locked vco-array achieving 200 \$\mu\$ M-concentration sensitivity](#)
A Chu, B Schiecker, K Lips, M Ortmanns, J Anders
Solid-State Circuits Conference-(ISSCC), IEEE International, 354-356 (2018).

2017

21. VCO-based ESR-on-a-chip as a tool for low-cost, high-sensitivity point-of-care diagnostics
B. Schlecker, A. Chu, J. Handwerker, S. Künstner, M. Ortmanns, K. Lips, J. Anders
Proceeding of the IEEE Sensors Conference, Glasgow (2017) accepted
22. Live Demonstration: A VCO-based point-of-care ESR spectrometer
B. Schlecker, A. Chu, J. Handwerker, S. Künstner, M. Ortmanns, K. Lips, J. Anders
Proceeding of the IEEE Sensors Conference, Glasgow (2017)
23. VCO-based ESR-on-a-chip as a tool for low-cost, high-sensitivity food quality control
A. Chu, B. Schlecker, J. Handwerker, S. Künstner, M. Ortmanns, K. Lips, J. Anders
submitted for publication in the proceedings of BioCAS 2017, IEEE Biomedical Circuits and Systems Conference (2017)
24. Using integrated LC tank VCOs as inexpensive, high-sensitivity electron spin detectors
B. Schlecker, A. Chu, A. Angerhofer, J. Goodsell, M. Haas, J. Handwerker, M. Ortmanns, K. Lips, J. Anders
submitted for publication in the proceedings of IEEE Transaction on Circuits and Systems I (2017)
25. A transimpedance amplifier using a widely tunable PVT-independent pseudo-resistor for high-performance current sensing applications
D. Djekic, G. Fantner, J. Behrends, K. Lips, M. Ortmanns, J. Anders
ESSCIRC 2017-43rd IEEE European Solid State Circuits Conference, 79-82
26. Using rapid-scan EPR to improve the detection limit of quantitative EPR by more than one order of

magnitude

J Möser, K Lips, M Tseytlin, GR Eaton, SS Eaton, A Schnegg

Journal of Magnetic Resonance 281 (2017) 17-25

27. Potential of PEDOT: PSS as a hole selective front contact for silicon heterojunction solar cells
S Jäckle, M Liebhaber, C Gersmann, M Mews, K Jäger, S Christiansen, K. Lips;
arXiv preprint arXiv:1701.05368
28. Potential of PEDOT: PSS as a hole selective front contact for silicon heterojunction solar cells
S Jäckle, M Liebhaber, C Gersmann, M Mews, K Jäger, S Christiansen, K. Lips;
Scientific Reports 7 (2017) 2170 DOI:10.1038/s41598-017-01946-3

2016

29. [The EMIL project at BESSY II: Beamline design and performance](#)
S. Hendel, F. Schäfers, M. Hävecker, G. Reichardt, M. Scheer, J. Bahrtdt, and K. Lips
AIP Conf. Proc. 1741 (2016) 030038
30. Triplet excitons as sensitive spin probes for structure analysis of extended defects in microcrystalline silicon
C. Meier, C. Teutloff, J. Behrends, R. Bittl, O. Astakhov, K. Lips
Physical Review B, 005300 (2016)
31. [Unveiling the Hybrid n-Si/PEDOT:PSS Interface](#)
S. Jäckle, M. Liebhaber, J. Niederhausen, M. Büchele, R. Félix, R.G. Wilks, M. Bär, K. Lips, and S. Christiansen; ACS Appl. Mater. Interfaces 2016, 8, 8841–8848
32. [Multifrequency EPR study of HWCVD \$\mu\$ -Si:C:H for photovoltaic applications](#)
Oleksandr Astakhov, Lihong Xiao, Friedhelm Finger, Tao Chen, Matthias Fehr, Benjamin George, Alexander Schnegg, Klaus Lips, Christian Teutloff
Physica Status Solidi A 213 (2016) 1747-1750
33. [Increased upconversion performance for thin film solar cells: a trimolecular composition](#)
Yuen Yap Cheng, Andrew Nattestad, Tim F. Schulze, Rowan W. MacQueen, Burkhard Fückel, Klaus Lips, Gordon G. Wallace, Tony Khoury, Maxwell J. Crossley, and Timothy W. Schmidt
Chemical Sciences 7 (2016) 559
DOI: 10.1039/c5sc03215f
34. [Probing the Fate of Mn Complexes in Nafion: A Combined Multifrequency EPR and XAS Study](#)
Alexander Schnegg, Joscha Nehr Korn, Archana Singh, Irati Alonso Calafell, Shannon A. Bonke, Rosalie K. Hocking, Klaus Lips, and Leone Spiccia
J. Phys. Chem. C 120 (2016) 853-861
DOI: 10.1021/acs.jpcc.5b10451
35. [On an Easy Way To Prepare Metal–Nitrogen Doped Carbon with Exclusive Presence of MeN₄-type Sites Active for the ORR](#)
Ulrike I. Kramm, Iris Herrmann-Geppert, Jan Behrends, Klaus Lips, Sebastian Fiechter, and Peter Bogdanoff
J. Am. Chem. Soc. 138 (2016) 635-640

2015

36. [Valence band offset and hole transport across a-SiO_x \(0 < x < 2\) passivation layers in silicon heterojunction solar cells.](#)
Martin Liebhaber, Mathias Mews, Lars Korte, Tim F. Schulze, Bernd Rech, and Klaus Lips
Proceedings of the 31st EU PVSEC 2015, 770-775 (2015)
37. [EMIL: the Energy Materials in-Situ Laboratory Berlin – a Novel Characterization Facility for Photovoltaic and Energy Materials](#)
K. Lips, T. F. Schulze, D.E. Starr, M. Bär, R.G. Wilks, F. Fenske, F. Ruske, M. Reiche, R. van de Krol, G. Reichardt, F. Schäfers, S. Hendel, R. Follath, J. Bahrtdt, S. Peredkov, S. DeBeer, M. Hävecker, A. Knop-Gericke, B. Rau, C.A. Kaufmann, R. Schlatmann, R. Schlögl, B. Rech, S. Raoux
Proceedings of the 31st EU PVSEC 2015, 25-28 (2015)
38. [Junction formation and current transport mechanisms in hybrid n-Si/PEDOT:PSS solar cells](#)
Sara Jäckle, Matthias Mattiza, Martin Liebhaber, Gerald Brönstrup, Mathias Rommel, Klaus Lips & Silke Christiansen
Scientific Reports 5 (2015) 13008 DOI: 10.1038/srep13008
39. [CW and pulsed electrically detected magnetic resonance spectroscopy at 263 GHz/12 T on operating amorphous silicon solar cells](#)
Mohammad Waseem Akhtar Alexander Schnegg; Sergey Veber; Christoph Meier; Matthias Fehr; Klaus Lips

Journal of Magnetic Resonance 257 (2015) 94-101

[doi:10.1016/j.jmr.2015.05.012](https://doi.org/10.1016/j.jmr.2015.05.012)

40. [Structural and electrical properties of metastable defects in hydrogenated amorphous silicon](#)
J. Melskens, A. Schnegg, A. Baldansuren, K. Lips, M. P. Plokker, S. W. H. Eijt, H. Schut, M. Fischer, M. Zeman, and A. H. M. Smets
Physical Review B 91 (2015) 245207
41. [Valence band offset in heterojunctions between crystalline silicon and amorphous silicon \(sub\)oxides \(\$a\text{-SiO}_x\text{:H}\$, \$0 < x < 2\$ \)](#)
M. Liebhaber, M. Mews, T. F. Schulze, L. Korte, B. Rech, and K. Lips
Applied Physics Letters 106 (2015) 031601
42. [High resolution in-operando microimaging of solar cells with pulsed electrically-detected magnetic resonance](#)
Itai Katz, Matthias Fehr, Alexander Schnegg, Klaus Lips; Aharon Blank
Journal of Magnetic Resonance 251 (2015) 26–35

2014

43. [Schlüsselmaterialien für Technologiedurchbrüche](#)
K. Lips, B. Rech, T. Kirchartz, W. Wischmann, M. Schmücker, S. Henniger, R. Reinike-Koch, B. Groß
Themenheft des Forschungsverbund Erneuerbare Energie (FVEE) „Forschung für die Energiewende - Phasenübergänge aktiv gestalten“ (2014) 70-74
44. [EMIL: The Energy Materials In Situ Laboratory Berlin](#)
K. Lips, D.E. Starr, M. Bär, T. F. Schulze, F. Fenske, S. Christiansen, R. van de Krol, S. Raoux, G. Reichardt, F. Schäfers, S. Hendel, R. Follath, J. Bahrtdt, M. Scheer, G. Wüstefeld, P. Kuske, M. Hävecker, A. Knop-Gericke, R. Schlögl, B. Rech
Proceedings of the IEEE PVSEC 2014, Denver, Colorado, USA (2014) 0698.
45. [Impact of dislocations and dangling bond defects on the electrical performance of crystalline silicon thin films.](#)
Steffens, S.; Becker, C.; Amkreutz, D.; Klossek, A.; Kittler, M.; Chen, Y.-Y.; Schnegg, A.; Klingsporn, M.; Abou-Ras, D.; Lips, K.; Rech, B.
Applied Physics Letters 105 (2014), p. 022108/1-5
46. [Enhancing solar cells with photochemical upconversion : Triplet-triplet annihilation in organic molecules increases the photocurrent of thin-film solar cells.](#)
Schulze, T.; Lips, K.; Schmidt, T.
SPIE Newsroom 17 March 2014 (2014), p. 1-3
47. [Action spectrum experiment for the measurement of incoherent photon upconversion efficiency under sun-like excitation.](#)
MacQueen, R.W.; Cheng, Y.Y.; Danos, A.N.; Lips, K.; Schmidt, T.W.
RSC Advances 95 (2014), 52749-52756
48. [Metastable defect formation at microvoids identified as the origin of light-induced degradation in a-Si:H](#)
Fehr, M, Schnegg, A, Rech, B, Astakhov, O, Finger, F, Bittl, R, Teutloff, C, Lips, K;
Physical Review Letters 112 (2014) 066403

2013

49. [Selective electron spin resonance measurements of micrometer-scale thin samples on a substrate](#)
E. Dikarov, M. Fehr, A. Schnegg, K. Lips, and A. Blank
Meas. Sci. Technol. 24 (2013) 115009
50. [Correlation between structural and opto-electronic characteristics of crystalline Si microhole arrays for photonic light management](#)
T. Sontheimer, V. Preidel, D. Lockau, F. Back, E. Rudigier-Voigt, B. Löchel, A. Erko, F. Schmidt, A. Schnegg, K. Lips, C. Becker, and B. Rech
Journal of Applied Physics 114, 173513 (2013)
51. [Nanostructured upconverters for improved solar cell performance](#)
Rowan W MacQueen, Tim F Schulze, Tony Khoury, Yuen Yap Cheng, Bernd Stannowski, Klaus Lips, Maxwell J Crossley, Timothy Schmidt
SPIE Solar Energy+ Technology, (2013) 882408-882408-9
52. [The silicon/zinc oxide interface in amorphous silicon-based thin-film solar cells: Understanding an empirically optimized contact](#)
D. Gerlach, R. G. Wilks, D. Wippler, M. Wimmer, M. Lozac'h, R. Félix, A. Mück, M. Meier, S. Ueda,

- H. Yoshikawa, M. Gorgoi, K. Lips, B. Rech, M. Sumiya, J. Hüpkes, K. Kobayashi, and M. Bär
Appl. Phys. Lett. 103 (2013) 023903
53. *Identification of intra-grain and grain boundary defects in polycrystalline Si thin films by electron paramagnetic resonance*
 T. Sontheimer, A. Schnegg, S. Steffens, F. Ruske, D. Amkreutz, K. Lips, and B. Rech, B; *physica status solidi (RRL) - Rapid Research Letters*, Volume 7, Issue 11 (2013), 959–962
54. *Multi-frequency EDMR applied to microcrystalline thin-film silicon solar cells.*
 C. Meier, J. Behrends, C. Teutloff, O. Astakhov, A. Schnegg, K. Lips, R. Bittl;
Journal of Magnetic Resonance 234 (2013), 1-9
55. *Dye sensitised solar cell with integrated triplet-triplet annihilation upconversion system*
 A. Nattestad, Y.Y. Cheng, R.W. MacQueen, T.F. Schulze, F.W. Thompson, A.J. Mozer, B.Füchel, T. Khoury, M.J. Crossley, K. Lips, G.G. Wallace, and T.W.Schmidt,
J. Phys. Chem. Lett. 4 (2013) 2073–2078
56. *Water Oxidation Catalysis by Nanoparticulate MnOxThin Films: Probing the Effect of the Manganese Precursors*
 A. Singh, R. Hocking, S. Chang, B. George, M. Fehr, K. Lips, A. Schnegg, L. Spiccia,
Chemistry of Materials 25 (2013) 1098-1108
57. *The Energy Materials in-Situ Laboratory Berlin (EMIL) at BESSY II*
 R Follath, M Hävecker, G Reichardt, K Lips, J Bahrtdt, F Schäfers and P Schmid
Journal of Physics: Conference Series 425 (2013) 212003
58. *Chemical interaction at the buried silicon/zinc oxide thin-film solar cell interface as revealed by hard x-ray photoelectron spectroscopy*
 M. Wimmer, D. Gerlach, R.G Wilks, S. Scherf; R. Félix, C. Lupulescu, F. Ruske, G. Schondelmaier, K. Lips, J. Hüpkes, M. Gorgoi, W. Eberhardt, B. Rech, and M. Bär
Journal of Electron Spectroscopy and Related Phenomena 190 (2013), p. 309-313
59. *Atomic structure of interface states in silicon heterojunction solar cells*
 B.M. George, J. Behrends, A. Schnegg, T.F. Schulze, M. Fehr, L. Korte, B. Rech, K. Lips, M. Rohrmüller, E. Rauls, W.G. Schmidt, U. Gerstmann
Physical Review Letters 110 (2013) 136803.
60. *Errata: Micro-optical design of photochemical upconverters for thin-film solar cells*
 TF Schulze, CY Yap, T Khoury, MJ Crossley, B Stannowski, K Lips, TW Schmidt
Journal of Photonics for Energy 3 (1), (2013) 039998-039998
61. *p-type a-Si:C:H/ZnO:Al and μ c-Si:C:H/ZnO:Al thin-film solar cell structures – a comparative hard x-ray photoelectron spectroscopy study,*
 D. Gerlach, D. Wippler, R.G. Wilks, M. Wimmer, M. Lozac'h, R. Félix, S. Ueda, H. Yoshikawa, K. Lips, B. Rech, M. Sumiya, K. Kobayashi, M. Gorgoi, J. Hüpkes, and M. Bär
Journal of Photovoltaics 3 (2013) 483-487.

2012

62. *Micro-optical design of photochemical upconverters for thin-film solar cells*
 F. Schulze, Y.Y. Cheng, T. Khoury, M. J. Crossley, B. Stannowski, K Lips and T. W. Schmidt
Journal for Photonics for Energy Vol. 3 (2012) 034598-1
63. *Photochemical Upconversion Applied to Organic and Thin Film Silicon Solar Cells*
 T. F. Schulze, J. Czolk, Y.-Y. Cheng, B. Füchel, R. W. MacQueen, T. Khoury, M. J. Crossley, U. Lemmer, A. Colsmann, B. Stannowski, K. Lips, and T. W. Schmidt
 in *Renewable Energy and the Environment Optics and Photonics Congress*, OSA Technical Digest (online) (Optical Society of America, 2012), paper PW2B.1.
64. *Improving the light-harvesting of second generation solar cells with photochemical upconversion*
 Yuen Yap Cheng ; Burkhard Füchel ; Tim Schulze ; Rowan W. MacQueen ; Murad J. Y. Tayebjee ; Andrew Danos ; Tony Khoury ; Raphaël G. C. R. Clady ; N. J. Ekins-Daukes ; Maxwell J. Crossley ; Bernd Stannowski ; Klaus Lips ; Timothy W. Schmidt
Proc. SPIE 8477, Organic Photovoltaics XIII, 84770X (September 27, 2012); doi:10.1117/12.945217
65. *Efficiency Enhancement of Organic and Thin-Film Silicon Solar Cells with Photochemical Upconversion*
 T. F. Schulze, J. Czolk, Y.-Y. Cheng, B. Füchel, R. W. MacQueen, T. Khoury, M. J. Crossley, B. Stannowski, K. Lips, U. Lemmer, A. Colsmann, and T. W. Schmidt
The Journal of Physical Chemistry C 116 (43) (2012) 22794-22801
66. *Improving the light-harvesting of second-generation solar cells with photochemical upconversion*
 T. F. Schulze, Y.-Y. Cheng, B. Füchel, R. W. MacQueen, T. Khoury, M. J. Crossley, B. Stannowski, K Lips and T. W. Schmidt
Proceedings of the 27th European Photovoltaic Solar Energy Conference and Exhibition (2012) 44-49

67. *The Energy Materials in-Situ Laboratory Berlin (EMIL) at BESSY II*
R. Follath, M. Hävecker, G. Reichardt, K. Lips, J. Bahrtdt, F. Schäfers, P. Schmidt
Proceedings of the 11th International Conference on Synchrotron Radiation Instrumentation (SRI 2012), Lyon, France
68. *Influence of deep defects on device performance of thin-film polycrystalline silicon solar cells*
M. Fehr P. Simon, T. Sontheimer, C. Leendertz, B. Gorke, A. Schnegg, B. Rech, and K. Lips
Applied Physics Letters 101 (2012) 123904.
69. *Pulsed Electrically Detected Magnetic Resonance for Thin Film Silicon and Organic Solar Cells*
A. Schnegg, J. Behrends, M. Fehr and K. Lips
Invited perspective article in Physical Chemistry Chemical Physics 14 (2012) 14418-38.
70. *Lock-in detection for pulsed electrically detected magnetic resonance*
Felix Hoehne, Lukas Dreher, Jan Behrends, Matthias Fehr, Hans Huebl, Klaus Lips, Alexander Schnegg, Max Suckert, Martin Stutzmann, and Martin S. Brandt
Review of Scientific Instruments 83, 043907 (2012)
71. *Photochemical upconversion enhanced solar cells: Effect of a back reflector*
Y.Y. Cheng , B. Fueckel ,R.W. MacQueen, T. Khoury, R.G.RC. Clady, T.F. Schulze, N. Ekins-Daukes, M.J. Crossley, B. Stannowski, K. Lips, and T. Schmidt
Aust. J. Chem. 65 (5), 480–485 (2012).
72. *Improving the light-harvesting of amorphous silicon solar cells with photochemical upconversion*
Y.Y. Cheng , B. Fueckel , R.W. MacQueen , T. Khoury , R.G.RC. Clady, T.F. Schulze, N. Ekins-Daukes, M.J. Crossley, B. Stannowski, K. Lips, and T. Schmidt
Energy & Environmental Science 5, 6953 (2012)
73. *Direct Detection of Photoinduced Charge Transfer Complexes in Polymer:Fullerene Blends*
J. Behrends, A. Sperlich, A. Schnegg, T. Biskup, C. Teutloff, K. Lips, V. Dyakonov, R. Bittl,
Phys. Rev. B 85, 125206 (2012)
<http://arxiv.org/abs/1107.5649>
74. *Intermolecular hybridization governs molecular electrical doping*
Salzmann, I.; Heimel, G.; Duhm, S.; Oehzelt, M.; Pingel, P.; George, B.; Schnegg, A.; Lips, K.; Blum, R.P.; Vollmer, A.; Koch, N.
Phys. Rev. Lett. 108, 035502 (2012)
75. *Dangling bonds in amorphous silicon investigated by Multifrequency EPR*
M. Fehr, A. Schnegg, B. Rech, K. Lips, O. Astakhov, F. Finger, R. Bittl, C. Teutloff
Journal of Non-Crystalline Solids 358 (2012) 2067

2011

76. *Dangling bonds in a-Si:H revisited: A combined Multifrequency EPR and DFT Study*
M. Fehr, A. Schnegg, B. Rech, K. Lips, O. Astakhov, F. Finger, G. Pfanner, C. Freysoldt, J. Neugebauer, R. Bittl, C. Teutloff
Phys. Rev. B 84, 245203 (2011)
77. *Electrical detection of electron-spin-echo envelope modulations in thin-film silicon solar cells.*
M. Fehr, J. Behrends, S. Haas, B. Rech, K. Lips, A. Schnegg,
Physical Review B 84, 193202 (2011)
78. *A new concept of photochemical upconversion for thin-film silicon solar cells*
B. Füchel, Y.Y. Cheng, R. W. MacQueen, M. J. Y. Tayebjee, R.G.C.R. Clady, K. Nauta, M.J. Crossley, T.W. Schmidt1, C. Johnson, G.J. Conibeer, M.A. Green, K. Lips, B. Stannowski, S. Kirner, T. Hänel, R. Schlatmann, B. Rech, N.J. Ekins-Daukes
Twenty sixth European Photovoltaic Solar Energy Conference: proceedings of the international conference held in Hamburg, Germany, 5–9 September 2011. München: WIP Renewable Energies, 2011. p. 101-104
79. *Electron Spin Resonance (ESR) in hydrogenated amorphous silicon (a-Si:H)*
K. Lips, M. Fehr, J. Behrends
bookarticle in Advanced Characterization Techniques for Thin Film Solar Cells, Wiley-VCH (2011) 231-274
80. *Spinblockade in Plastiksolarzellen*
J. Behrends, A. Schnegg, K. Lips
Spektrum der Wissenschaften 8 (2011) 16-20
81. *Hard x-ray photoelectron spectroscopy study of the buried Si/ZnO thin-film solar cell interface: Direct evidence for the formation of Si-O at the expense of Zn-O bonds*
M. Wimmer, M. Bär, D. Gerlach, R. G. Wilks, S. Scherf, C. Lupulescu, F. Ruske, R. Félix, J. Hüpkes, G. Gavrilu, M. Gorgoi, K. Lips, W. Eberhardt, B. Rech
Appl. Phys. Lett. 99 (2011) 152104

2010

82. *Electron spin resonance in laser-crystallized polycrystalline silicon-germanium thin films*
M. Weizman, L. –P. Scheller, N.H. Nickel. K. Lips, B. Yan
Physica Status Solidi A – Applications and Material Science 207 (2010) 570-573
83. *Bipolaron formation in organic solar cells observed by pulsed electrically detected magnetic resonance*
J. Behrends, A. Schnegg, K. Lips, E.A. Thomsen, A.K. Pandey, D.W. Samuel, D.J. Kneebly
Phys. Rev. Lett. 105, 176601 (2010)
84. *Impact of solid-phase crystallization of amorphous silicon on the chemical structure of the buried Si/ZnO thin film solar cell interface*
Bär, M.; Wimmer, M.; Wilks, R. G.; Roczen, M.; Gerlach, D.; Ruske, F.; Lips, K.; Rech, B.; Weinhardt, L.; Blum, M.; Pookpanratana, S.; Krause, S.; Zhang, Y.; Heske, C.; Yang, W.; Denlinger, J. D.
Appl. Phys. Lett. 97 (2010) 072105
85. *Silizium Photovoltaik–Energie der Zukunft*
K. Lips, B. Rech
Praxis der Naturwissenschaften–Chemie in der Schule 59 (2010), 10-14
86. *GIXRF-NEXAFS investigations on buried ZnO/Si interfaces: A first insight in changes of chemical states due to annealing of the specimen*
M. Pagels, F. Reinhardt, B. Pollakowski, M. Roczen, C. Becker, K. Lips, B. Rech, B. Kanngießler, B. Beckhoff
Nuclear Inst. and Methods Research Section B: Beam Interaction with Materials and Atoms 268 (2010) 370-373
87. *Hydrogen distribution in the vicinity of dangling bonds in hydrogenated amorphous silicon (a-Si:H)*
M. Fehr, A. Schnegg, B. Rech, K. Lips, F. Finger, O. Astakhov, C. Teutloff, R. Bittl
physica status solidi a-Applications and Materials Sciences 207 (2010) 552-555

2009

88. *Spin-Dependent Processes in ZnPc Single layers*
S. Schaefer, S. Saremi, J. Behrends, K. Fostiropoulos, K. Lips, W. Harneit
physica status solidi B-Basic Solid State Physics 246 (2009) 2844
89. *Electronic Density of States in Polycrystalline Silicon*
K. v. Maydell, K. Lips, N.H. Nickel
Proc. EPVSEC 2009, Hamburg, Germany
90. *Electrical detection of electron spin resonance in microcrystalline silicon pin solar cells*
J. Behrends, A. Schnegg, M. Fehr, A. Lambertz, S. Haas, F. Finger, B. Rech, K. Lips
Philosophical Magazine Vol. 89, (2009) 2655–2676
91. *Frequency domain Fourier transform THz-EPR on single molecule magnets using coherent synchrotron radiation*
A. Schnegg, J. Behrends, K. Lips, R. Bittl, K. Holldack
Phys. Chem. Chem. Phys. 11 (2009) 6820–6825
92. *EPR study of the illumination effect on properties of paramagnetic centers in nitrogen-doped TiO₂ active in visible light photocatalysis*
E.A. Konstantinova, A.I. Kokorin, K. Lips, S. Sakthivel, H. Kisch
Applied Magnetic Resonance 35 (2009) 421–427
93. *Observation of precursor pair formation of recombining charge carriers*
J. Behrends, K. Lips, C. Boehme
Phys. Rev. B 80 (2009) 045207
94. *Planar Rear Emitter Back Contacted Silicon Heterojunction Solar Cell*
R. Stangl, M. Bivour, J. Haschke, M. Schmidt, K. Lips, B. Rech
Solar Energy Materials & Solar Cells 93 (2009) 1900–1903
95. *Experimental discrimination of geminate and non-geminate recombination in a-Si:H*
T. W. Herring, S.-Y. Lee, D. R. McCamey, P. C. Taylor, K. Lips, J. Hu, F. Zhu, A. Madan, and C. Boehme
Phys. Rev. B 79 (2009) 195205
96. *Influence of disorder on electrically and optically detected electron spin nutation*
C. Michel, A. Gliesche, S. D. Baranovskii, K. Lips, F. Gebhard, and C. Boehme
Physical Review B 79 (5), (2009) 052201

2008

97. *Electrical detection of coherent spin pair oscillations in ZnPc devices*
S. Schaefer, S. Saremi, K. Fostiropoulos, J. Behrends, K. Lips, W. Harneit
phys. stat. sol. (b) 245 (2008) 2120 – 2123
98. *New rear contacted amorphous/crystalline silicon heterojunction solar cells*
J. Haschke, R. Stangl, M. Bivour, E. Conrad, L. Korte, M. Schmidt, K. Lips, B. Rech
Twenty third European Photovoltaic Solar Energy Conference: proceedings of the international conference held in Valencia, Spain, 1–5 September 2008. München: WIP Renewable Energies, 2008.– ISBN 3-936338-24-8, p. 1652-1656
99. *Ultra long spin coherence time for Fe³⁺ in ZnO: A new spin qubit*
J. Tribollet, J. Behrends, K. Lips
Euro Physics Letters 84 (2008) 20009
100. *Polycrystalline silicon thin-film solar cells on ZnO:Al coated glass*
C. Becker, P. Dogan, B. Gorka, F. Ruske, T. Hänel, J. Behrends, F. Fenske, K. Lips, S. Gall, B. Rech
proceedings of the Materials Research Society (2008) 1066-A06-01
101. *Thin film engineering for N@C60 quantum computers spin detection and device patterning approaches*
S. Schaefer, K. Huebener, W. Harneit, C. Boehme, K. Fostiropoulos, H. Angermann, J. Rappich, J. Behrends, K. Lips
Solid State Sciences 10 (2008) 1314 – 1321
Errata Solid State Sciences 11 (2008) 948
102. *Effect of exchange coupling on coherently controlled spin-dependent transition rates*
A. Gliesche, C. Michel, V. Rajevac, K. Lips, S.D. Baranovskii, F. Gebhard, C. Boehme
Phys. Rev. B 77 (2008) 245206
arXiv: cond-mat.mtrl-sci 8 Jan 2008/0801.1304v2
103. *Planar Rear Emitter Back Contacted amorphous/crystalline Silicon Heterojunction Solar Cell*
R. Stangl, J. Haschke, M. Bivour, M. Schmidt, K. Lips, B. Rech
Proceedings IEEE-Photovoltaic Specialists Conference (PVSEC), San Diego, CA, USA, 11-16.5.2008

104. *Recombination and transport in microcrystalline pin solar cells studied with pulsed electrically detected magnetic resonance*
J. Behrends, A. Schnegg, C. Boehme, S. Haas, H. Stiebig, F. Finger, B. Rech, K. Lips
Journal of Non-Crystalline Solids 354 (2008) 2411-2415
105. *ESR investigations on hydrogen-induced hyperfine splitting features in ZnO*
M.A. Gluba, F. Friedrich, K. Lips, N.H. Nickel
Superlattices and Microstructures 43, (2008) 24-27
106. *New rear contacted amorphous/crystalline silicon heterojunction solar cells*
J. Haschke, R. Stangl, M. Bivour, E. Conrad, L. Korte, M. Schmidt, K. Lips, B. Rech
proceedings of 23rd European Photovoltaic Solar Energy Conference (EPVSEC), Valencia, Spain, 1.9.-5.9.2008
107. *Polycrystalline silicon thin-film solar cells on ZnO:Al coated glass*
C. Becker, P. Dogan, B. Gorke, F. Ruske, T. Hänel, J. Behrends, F. Fenske, K. Lips, S. Gall, B. Rech
proceedings of the Materials Research Society (2008) 1066-A06-01
108. *Planar Rear Emitter Back Contacted amorphous/crystalline Silicon Heterojunction Solar Cell*
R. Stangl, J. Haschke, M. Bivour, M. Schmidt, K. Lips, B. Rech
Proceedings IEEE-Photovoltaic Specialists Conference (PVSEC), San Diego, CA, USA, 11-16.5.2008
109. *Recombination and transport in microcrystalline pin solar cells studied with pulsed electrically detected magnetic resonance*
J. Behrends, A. Schnegg, C. Boehme, S. Haas, H. Stiebig, F. Finger, B. Rech, K. Lips
Journal of Non-Crystalline Solids 354 (2008) 2411-2415
110. *ESR investigations on hydrogen-induced hyperfine splitting features in ZnO*
M.A. Gluba, F. Friedrich, K. Lips, N.H. Nickel
Superlattices and Microstructures 43, (2008) 24-27

2007

111. *AFORS-HET 3.0: Development of a two-dimensional simulation mode*
T. Geipel, M. Kriegel, R. Stangl, K. Lips
Proceedings of NUMOS (International Workshop on Numerical Modelling of Thin Film Solar Cells),
Gent, 28-30 March 2007, p. 183-184
112. *Carbon-Doped Titanium Dioxide: Visible Light Photocatalysis and EPR Investigation*
E. A. Konstantinova, A. I. Kokorin, S. Sakthivel, H. Kisch, K. Lips
Chimia 61 (2007) 810-814
113. *Room Temperature Electrical Detection of Spin Coherence in C60*
W. Harnleit, C. Boehme, S. Schaefer, K. Huebener, K. Fostiropoulos, K. Lips
Physical Review Letters 98, (2007) 216601
114. *RECASH a novel high efficiency buried grid rear contact amorphous/crystalline Silicon heterojunction solar cell concept*
Stangl, R.; Bivour, M.; Conrad, E.; Didschuns, I.; Korte, L.; Lips, K.; Schmidt, M.
Proceedings, 22nd European Photovoltaic Solar Energy Conference, Milan, Italy, 3-7 September 2007
115. *AFORS-HET 3.0: first approach to a two-dimensional simulation of solar cells*
Stangl, R.; Geipel, T.; Dubiel, M.; Kriegel, M.; El-Shater, Th.; Lips, K.
Proceedings, 22nd European Photovoltaic Solar Energy Conference, Milan, Italy, 3-7 September 2007
116. *Coherent defect spectroscopy with pulsed optically and electrically detected magnetic resonance*
C. Boehme, K. Lips
Journal of Material Science: Materials in Electronics 18 (2007) 285 -291

2006

117. *Electrical detection of coherent 31P spin quantum states*
A. R. Stegner, C. Boehme, H. Huebl, M. Stutzmann, K. Lips and M.S. Brandt
Nature Physics 2, (2006) 835-838
arXiv: quant-ph/0607178
118. *Transport and recombination through weakly coupled localized spin pairs in semiconductors during coherent spin excitation*
V. Rajevac, C. Boehme, C. Michel, A. Gliesche, K. Lips, S.D. Baranovskii, and P. Thomas
Phys. Rev. B 74 (2006) 245206
arXiv: cond-mat/0607627
119. *Investigation of hopping transport in n-a-Si:H/c-Si solar cells with pulsed electrically detected magnetic resonance*

- C. Boehme, J. Behrends, K. v. Maydell, M. Schmidt and K. Lips
Journal of Non-Crystalline Solids 352 (2006) 1113-1116
120. *The investigation of charge carrier recombination and hopping transport with pulsed electrically detected magnetic resonance techniques*
C. Boehme, K. Lips
book article in „Charge transport in disordered solids with applications in electronics” John Wiley & Sons, edited by Sergei Baranovski (2006) 179-219
121. *Structural defects in crystalline silicon epitaxially grown at temperatures below 600°C*
K. Petter, B. Rau, I. Sieber, D. Eyidi, M. Stöger-Pollach, S. Gall, K. Lips, W. Fuhs,
Hahn-Meitner Institut Berlin–Annual Report 2005–Selected Results, (2006) 70-71
122. *The ultra sensitive electrical detection of spin Rabi oscillation at paramagnetic defects*
C. Boehme, K. Lips
Physica B 376-377 (2006) 930-935
arXiv: quant-ph: 0509120
123. *Line defects in epitaxial silicon films grown at 560° C*
K. Petter; D. Eyidi, Stöger-Pollach, I. Sieber, P. Schubert-Bischoff, B. Rau, A.T. Tham, P. Schattschneider, S. Gall, K. Lips, W. Fuhs
Physica B 376-377 (2006) 117-121
124. *Extended defects in Si films epitaxially grown using low-temperature ECRCVD*
B. Rau, K. Petter, I. Sieber, M. Stöger-Pollach, P. Schattschneider, S. Gall, K. Lips, W. Fuhs
Journal of Crystal Growth 287 (2006) 433-437
125. *Large-grained polycrystalline silicon on glass for thin-film solar cells*
S. Gall, J. Schneider, J. Klein, K. Hübener, M. Muske, B. Rau, E. Conrad, I. Sieber, K. Petter, K. Lips,
M. Stöger-Pollach, P. Schattschneider, W. Fuhs
Thin Solid Films 511-512 (2006) 7-14

2005

126. *Low-temperature epitaxy for thin-film silicon solar cells by ECRCVD–structural and electronic properties*
B. Rau, K. Petter, S. Brehme, I. Sieber, M. Stöger-Pollach, P. Schattschneider, K. Lips,
S. Gall, W. Fuhs
proceedings of the 31st IEEE Photovoltaics Specialists Conference Orlando, Florida, USA 2005, pp.
1123-1126
127. *An Electron Paramagnetic Resonance and Photoelectron Spectroscopy Study on the Native Oxidation of CuGaSe₂*
R. Würz, A. Meeder, D. Fuertes Marrón, Th. Schedel-Niedrig, K. Lips
Thin-Film Compound Semiconductor Photovoltaics, MRS Proceedings Volume 865 (2005) F5.36
128. *A pulsed EDMR study of charge trapping at Pb centers*
C. Boehme, F. Friedrich, K. Lips
Semiconductor Defect Engineering—Materials, Synthetic Structures and Devices, MRS Proceedings
Volume 864 (2005) E11.3
129. *Recombination at silicon dangling bonds*
C. Boehme, F. Friedrich, T. Ehara, K. Lips
Thin Solid Films 487 (2005) 132-136
130. *Structural defects and photoluminescence of epitaxial Si films grown at low temperatures*
K. Petter, I. Sieber, B. Rau, S. Brehme, K. Lips and W. Fuhs
Thin Solid Films 487 (2005) 137-141
131. *Triplet recombination at Pb centers and its implications for capture cross sections*
F. Friedrich, C. Boehme, K. Lips
J. Appl. Phys. 97 (2005) 1
132. *The impact of the electron spin on charge carrier recombination – the example of amorphous silicon*
K. Lips, C. Boehme, T. Ehara
Journal of Optoelectronics and Advanced Materials Vol. 7, No. 1 (2005)
133. *Triplet recombination at Pb centers and its implications for capture cross sections*
F. Friedrich, C. Boehme, K. Lips
J. Appl. Phys. 97 (2005) 056101

2004

134. *Native oxidation of CuGaSe₂ crystals and thin films studied by Electron paramagnetic resonance (EPR) and photoelectron spectroscopy (PES)*
R. Würz, A. Meeder, D. Fuertes Marrón, Th. Schedel-Niedrig, A. Knop-Gericke, K. Lips
Phys. Rev. B **70** (2004) 205321
135. *Numerical analysis of the spin-dependent dark current in microcrystalline silicon solar cells*
T. Brammer, H. Stiebig, K. Lips
Applied Physics Letters **85** (2004) 1625-1626
136. *Simulation of the spin-dependent dark current in microcrystalline silicon solar cells*
T. Brammer, H. Stiebig, K. Lips
Proceedings of the 19th European Photovoltaic Solar Energy Conference, Paris, France, 7-11.6.2004
137. *Electronic properties of low-Temperature epitaxial Si Grown by ECR-CVD*
S. Brehme, U. Knipper, K. Petter, I. Sieber, B. Rau, K. Lips, W. Fuhs
Proceedings of the 19th European Photovoltaic Solar Energy Conference, Paris, France, 7-11.6.2004
138. *High power polymer dye laser with improved stability*
I. G. Kytina, V. G. Kytin, K. Lips
Applied Physics Letters **84** (2004) 4902-4904
139. *Investigation of electronic transitions in semiconductors with pulsed electrically detected magnetic resonance*
C. Boehme, K. Lips
Appl. Magnetic Resonance **27** (2004) 109-122
140. *N@C60 and P@C60 as Quantum Bits*
C. Meyer, W. Harnleit, B. Naydenov, K. Lips, A. Weidinger
Appl. Magnetic Resonance **27** (2004) 123-132
141. *Recombination in $\mu\text{c-Si:H}$ pin solar cells*
K. Lips, C. Boehme, W. Fuhs
J. Non-Cryst. Sol. **338-240** (2004) 702-705
142. *The nature of dangling bond recombination in $\mu\text{c-Si:H}$*
C. Boehme, K. Lips
J. Non-Cryst. Sol. **338-240** (2004) 434-439
143. *An Electron-Spin-Resonance study on laser crystallized polycrystalline silicon*
K. Brendel, N. H. Nickel, K. Lips, W. Fuhs
J. Non-Cryst. Sol. **338-240** (2004) 262-265
144. *A pulsed EDMR study of hydrogenated microcrystalline silicon at low temperatures*
C. Boehme, K. Lips
phys. stat. sol. (c) **1** (2004) 1255-1274
145. *Defect characterization with coherent spin motion experiments*
Proceedings of the 16th Workshop on Quantum Solar Energy Conversion–QUANTSOL 2004
146. *Heterometallic fullerenes of Fe and Cu groups with the composition K₂MC₆₀ (M=Fe+2, Fe+3, Co+2, Ni+2, Cu+1, Cu+2, Ag+1)*
B.M. Bulychev, R.A. Lunin, A.V. Krechetov, V.A. Kulbachinskii, V.G. Kytin, K.V. Pohlak, K. Lips, J. Rappich
Journal of Physics and Chemistry of Solids **65** (2004) 337-342

2003

147. *Materialforschung mit neuen analytischen Methoden*
S. Rein, K. Lips, J. Schmidt
Themenheft des Forschungsverbund Sonnenenergie „Photovoltaik–neue Horizonte“ (2003) 60-65
148. *Photovoltaik–Energie der Zukunft*
K. Lips
BundesUmweltWettbewerb–Vom Wissen zum Handeln Nr. 12 (2003) 7-11
149. *Electrical detection of spin coherence*
C. Boehme, K. Lips
Physical Review Letters **91** (2003) 246603
150. *Theory of the time–domain measurement of spin–dependent recombination with pulsed electrically detected magnetic resonance*
C. Boehme, K. Lips
Phys. Rev. B **68** (2003) 245105-1–245105-19

151. *Electron-Spin-Resonance Investigation of Laser Crystallized Polycrystalline Silicon*
Brendel, K., Nickel, N.H., Lips, K., Fuhs, W.
Mat. Res. Proc. Symp. Vol. **762** (2003) A2.3.1
152. *Recombination in silicon thin-film solar cells: a study of electrically detected magnetic resonance*
K. Lips, C. Boehme, W. Fuhs
IEE Proceedings–Circuits, Devices and Systems–Amorphous and microcrystalline semiconductor devices Volume **150** (4) (2003) 309-315
153. *Recombination echoes in disordered silicon*
K. Lips, C. Boehme
Journal of Material Science: Materials in Electronics **14** (10-12) (2003) 635-639
154. *Defects and recombination in microcrystalline silicon*
K. Lips, P. Kanschhat, W. Fuhs
Solar Energy Materials & Solar Cells **78** (2003) 513-541
155. *Photoluminescence of doped and undoped laser crystallized polycrystalline silicon*
K. Brendel, N.H. Nickel, K. Lips, W. Fuhs
Solid State Communications **125** (2003) 499-502

2002

156. *Experimental Steps Towards the Realisation of a Fullerene Quantum Computer*
C. Meyer, W. Harneit, A. Weidinger, K. Lips
Phys. Stat. Sol. (b) **233** (2002) 462
157. *Spin-dependent recombination- electronic readout mechanisms for solid state quantum computers*
C. Boehme, K. Lips,
Phys. Stat. Sol. (b) **233** (2002) 427
158. *Light-intensity and temperature dependence of trap-dang bond recombination in hydrogenated microcrystalline silicon*
C. Boehme, K. Lips
Mat. Res. Soc. Symp. Proc. Vol. **715** (2002) A16.2.1
159. *Experimental Study on the Role of Hydrogen in the Breakdown of Low-Temperature Si Epitaxy*
J. Platen-Schwarzkopf, W. Bohne, W. Fuhs, K. Lips, J. Röhrich, B. Selle, I. Sieber
Mat. Res. Soc. Symp. Proc. Vol. **686** (2002) A3.1.1
160. *Alignment of the endohedral fullerenes N@C60 and N@C70 in a liquid-crystal matrix*
C. Meyer, W. Harneit, K. Lips, W. Weidinger, P. Jakes, K. Dinse
Phys. Rev. A **65**, 061201 (2002)
161. *Photoluminescence in laser-crystallized polycrystalline silicon*
K. Brendel, N. Nickel, K. Lips, W. Fuhs
J. of Non-Cryst. Sol. **299-302** (2002) 658
162. *Time-domain measurements of spin-dependent recombination in microcrystalline silicon*
C. Boehme, P. Kanschhat, K. Lips
J. of Non-Cryst. Sol. **299-302** (2002) 566
163. *An ESR study of bandtail states in phosphorus doped microcrystalline silicon*
K. Lips, P. Kanschhat, S. Brehme, W. Fuhs
J. of Non-Cryst. Sol. **299-302** (2002) 350
164. *Band tail states and free electrons in phosphorus doped microcrystalline silicon studied by ESR*
K. Lips, P. Kanschhat, S. Brehme, W. Fuhs
Thin Solid Films **403-404** (2002) 47
165. *Time-domain measurements of spin-dependnet recombination – a novel defect spectroscopy*
C. Boehme, P. Kanschhat, K. Lips
Nucl. Instr. Meth. B **186** (2002) 30
166. *Recombination currents in microcrystalline silicon solar cells studied by electrically detected magnetic resonance*
K. Lips, W. Fuhs, F. Finger
Proceedings of the 29th IEEE Photovoltaic Specialists Conference, New Orleans, USA (2002) 1166-1169

2001

167. *The time domain of spin dependent recombination – a new defect spectroscopy*
C. Boehme, K. Lips
Appl. Phys. Lett. **79** (2001) 4363
168. *Quantum-Beat Recombination Echoes*
C. Boehme, P. Kanschäat, K. Lips
Euro Phys. Lett. **56** (2001), 716
169. *Electron spin quantum computing with endohedral fullerenes*
W. Harneit, M. Waiblinger, K. Lips, C. Meyer, A. Weidinger, J. Twamley
in *Experimental Implementation of Quantum Computation (IQC'01)* edited by Robert Clark, (Rinton Press, Princeton, 2001)
170. *Electron spin quantum computing with N@C60*
C. Meyer, W. Harneit, M. Waiblinger, K. Lips, A. Weidinger
AIP Conference Proceedings **591** (2001) 101
171. *Concept for Quantum Computing with N@C60*
W. Harneit, M. Waiblinger, C. Meyer, K. Lips, A. Weidinger
Fullerenes for the New Millennium, Vol. 11, edited by K. M. Kadish, P. V. Kamat, D. Guldi, (The Electrochemical Society, Pennington, 2001) 358
172. *Ultrafast carrier trapping in microcrystalline Si observed in optical pump – THz probe measurements*
P. Uhd Jepsen, W. Schraier, I. H. Libon, U. Lemmer, N. E. Hecker, M. Birkholz, K. Lips, M. Schall
Appl. Phys. Lett. **79** (2001) 1291
173. *Barrier-Controlled Transport in Highly Doped Microcrystalline Silicon: Role of Interface States*
S. Brehme, P. Kanschäat, T. Weis, K. Lips, W. Fuhs
Solid State Phenomena Vols. **80-81** (2001) 225-230
174. *Thermal Stability of the Endohedral Fullerenes N@C60, N@C70, P@C60*
M. Waiblinger, K. Lips, W. Harneit, A. Weidinger, E. Dietel, A. Hirsch
Phys. Rev. B **64** (2001) 159901
175. *Spin-Dependent Processes in Thin-Film Silicon Solar Cells*
K. Lips, R. Müller, P. Kanschäat, F. Finger, W. Fuhs
Mat. Res. Soc. Symp. Proc. **609** (2001), A18.2.1
176. *Solar-Cell Suitable μ c-Si Films Grown by ECR-CVD*
M. Birkholz, E. Conrad, K. Lips, B. Selle, I. Sieber, W. Fuhs, S. Christiansen
Mat. Res. Soc. Symp. Proc. **609** (2001), A.5.5.1

2000

177. *Magnetic Interaction in Diluted N@C60*
M. Waiblinger, B. Goedde, K. Lips, W. Harneit, A. Weidinger, K.-P. Dinse in
Electronic Properties of Novel Materials–Molecular Nanostructures AIP Conference Proceedings 544
(2000), 195
178. *Kristallines Silizium auf Glas: Herstellung und Materialeigenschaften*
K. Lips, M. Birkholz, O. Nast, W. Fuhs
Sonne – Die Energie des 21. Jahrhunderts, in Themen 2000 des FVS, ISSN 0939-7582 (2000) 109-115
179. *N@C60 for Quantum Computing*
W. Harneit, M. Waiblinger, A. Weidinger, K. Lips
Electronic Properties of Novel Materials–Molecular Nanostructures, AIP Conference Proceedings **544**
(2000), 207
180. *Electron-paramagnetic resonance (EPR) and light-induced EPR investigations of CuGaSe2*
M. Birkholz, P. Kanschäat, T. Weiss, K. Lips
Thin Solid Films **361-362** (2000) 243-247
181. *Gas-phase deposited Thin-film Silicon emitters for solar cells: High quality Homoepitaxy at 325 °C*
K. Lips, J. Platen, S. Christiansen, I. Sieber, L. Elstner, W. Fuhs,
Proc. of the 28th IEEE Photovoltaic Specialists Conf., Anchorage, Alaska, USA (2000), 61
182. *Low-Temperature Epitaxial Growth of Crystalline Silicon for Thin-Film Solar Cells*
K. Lips, J. Platen, L. Elstner, W. Fuhs
Proc. of the 16th European Photovoltaic Solar Energy Conf., Glasgow, UK (2000), 466
183. *Identification of Transport and Recombination Paths in Homo- and Heterojunction Silicon Solar Cells by Electrically Detected Magnetic Resonance*
R. Müller, P. Kanschäat, S. von Aichberger, K. Lips, W. Fuhs
J. of Non-Cryst. Solids 266-269 (2000), 1124

184. *Atomic Nitrogen Encapsulated in Fullerenes: Realization of a Chemical Faraday Cage*
K. Lips, M. Waiblinger, B. Pietzak, A. Weidinger
phys. stat. sol (a) 177 (2000), 81
185. *Atomic Nitrogen Encapsulated in Fullerenes: Proof of an Ideal Chemical Faraday Cage*
K. Lips, M. Waiblinger, B. Pietzak, A. Weidinger
Mol. Materials 13 (2000), 217
186. *Defect and Tail States in Microcrystalline Silicon Investigated by Pulsed ESR*
P. Kanschäat, H. Mell, K. Lips, W. Fuhs
Mat. Res. Soc. Symp. Proc. 609 (2000), A27.3.1-6
187. *Identification of Nonradiative Recombination Paths in Microcrystalline Si*
P. Kanschäat, K. Lips, W. Fuhs
J. of Non.-Cryst. Sol. 266-269 (2000), 524
188. *Bandtails and Defects in Microcrystalline Silicon ($\mu\text{-Si:H}$)*
W. Fuhs, P. Kanschäat, K. Lips
J. of Vac. Sci. Technol. B 18(3) (2000), 1792
189. *Electronic Properties of Highly P and B Doped Thin Si Layers Grown by ECR-CVD*
S. Brehme, P. Kanschäat, K. Lips, I. Sieber, W. Fuhs
Materials Science and Engineering B 69-70 (2000), 232
190. *Evolution of Structure in Thin Microcrystalline Silicon Films Grown by Electron-Cyclotron Resonance Chemical Vapour Deposition*
M. Birkholz, B. Selle, E. Conrad, K. Lips, W. Fuhs
J. Appl. Phys. 88 (7) (2000), 4376

1999

191. *Atomic Hydrogen in the Si_8O_{12} Cage*
M. Waiblinger, B. Pietzak, K. Lips, T. J. S. Dennis, A. Weidinger, M. Päch, R. Stösser
In: „Molecular Nanostructures”, Eds. H. Kuzmany, J. Fink, M. Mehring, R. Roth, AIP Conference Proceedings 486 (1999), 148
192. *Atoms in Molecular Cage*
B. Pietzak, M. Waiblinger, K. Lips, A. Weidinger
In: „Molecular Nanostructures”, Eds. H. Kuzmany, J. Fink, M. Mehring, R. Roth, AIP Conference Proceedings 486 (1999), 85
193. *Atomic Nitrogen Encapsulated in Fullerenes: Effects of Cage Variations*
E. Dietel, A. Hirsch, B. Pietzak, M. Waiblinger, K. Lips, A. Waidinger, A. Gruss, K.-P. Dinse
J. of the American Chemical Society 121 (1999), 2432
194. *Low-Temperature Electron-Paramagnetic-Resonance Study of Extrinsic and Intrinsic Defects in CuGaSe_2*
M. Birkholz, P. Kanschäat, T. Weiss, M. Czerwensky, K. Lips
Phys. Rev. B 59 (1999), 12268
195. *Spin-Dependent Recombination in Hydrogenated Amorphous Silicon Schottky Barrier Devices*
K. Lips, C. Lerner, W. Fuhs
in: Thin Film Material and Devices-Developments in Science and Technology World Scientific, Singapore (1999), 141
196. *Preparation and Characterization of Microcrystalline and Epitaxially Grown Emitter Layers for Silicon Solar Cells*
K. Lips, J. Platen, S. Brehme, S. Gall, I. Sieber, L. Elstner, W. Fuhs
Mat. Res. Soc. Symp. Proc. 536 (1999), 457
197. *Paramagnetic Defects in Undoped Microcrystalline Silicon Deposited by the Hot-Wire Technique*
P. Kanschäat, K. Lips, R. Brüggemann, A. Hierzenberger, I. Sieber, W. Fuhs
Mat. Res. Soc. Symp. Proc. 507 (1999), 793

1998

198. *Study of N@C_{60} and P@C_{60}*
A. Weidinger, B. Pietzak, M. Waiblinger, K. Lips, B. Nuber, A. Hirsch
Molecular Nanostructures, Eds. H. Kuzmany, J. Fink, M. Mehring, R. Roth, AIP Conf. Proc., 442 (1998), 363
199. *Thermal Stability of N@C_{60}*
M. Waiblinger, B. Pietzak, K. Lips, A. Weidinger

Molecular Nanostructures, Eds. H. Kuzmany, J. Fink, M. Mehring, R. Roth, AIP Conf. Proc., 442 (1998), 388

200. *ESR and Transport in Microcrystalline Silicon*
K. Lips, P. Kanschä, C. Will, C. Lerner, W. Fuhs
J. of Non-Cryst. Solids 227-230 (1998), 1021
201. *Spin-Dependent Processes in a-Si:H Schottky Barrier Diodes*
C. Lerner, K. Lips, W. Fuhs
J. of Non-Cryst. Solid 227-230 (1998), 1177
202. *Simulation of Deep Defect Filling in n-type Schottky Barrier Structures*
R. Brüggemann, H. Cordes, K. Lips
J. of Non Cryst. Solid 227-230 (1998), 1173

1997

203. *Transport and Recombination Channels in Undoped Microcrystalline Silicon Studied by ESR and EDMR*
D. Will, C. Lerner, W. Fuhs, K. Lips
Mat. Res. Soc. Symp. Proc. 467 (1997) 361

1996

204. *Semi-classical model of electrically detected magnetic resonance (EDMR) in undoped a-Si:H*
K. Lips, C. Lerner, W. Fuhs
J. of Non-Cryst. Solids 198-200 (1996) 267
205. *Emission limited filling of deep defects in transient capacitance experiments*
K. Lips, T. Unold, Y. Xu, R. S. Crandall
J. of Non-Cryst. Solids 198-200 (1996) 525
206. *Subtleties of capacitance Transients in amorphous Silicon*
R. Crandall, K. Lips
MRS Proc. Vol. (1996)
207. *Partial depletion region collapse and its impact on transient capacitance measurements*
K. Lips, T. Unold, Y. Xu, R. S. Crandal
MRS Proc. Vol. (1996)

1995

208. *Spin-dependent recombination effects in a-Si:H pin solar cell devices: a new characterization technique*
K. Lips
MRS Proc. Vol. 377 (1995) 455
209. *Dangling bond relaxation and metastability in p-type amorphous hydrogenated silicon.*
R. S. Crandall, M. Carlen, K. Lips, Y. Xu
MRS Proc. Vol. 377 (1995) 227

1994

210. *Degradation mechanism in a-Si:H pin solar cells*
K. Lips, M. Block, W. Fuhs, C. Lerner
Proc. of the 12th European Photovoltaic Solar Energy Conference, Amsterdam (1994) 695

1993

211. *Electrically detected magnetic resonance in a-Si:H pin cells*
K. Lips, W. Fuhs
MRS Proc. Vol. 297 (1993) 643
212. *Transport and recombination in amorphous pin-type solar cells studied by electrically detected magnetic resonance*

- K. Lips, W. Fuhs
J. Appl. Phys. 74 (1993) 3993
213. *Recombination in a-Si:H films and pin-structures studied by electrically detected magnetic resonance*
W. Fuhs, K. Lips
J. of Non-Cryst. Solids 164-166 (1993) 541
214. *Degradation of a-Si:H pin solar cells studied by electrically detected magnetic resonance*
K. Lips, M. Block, W. Fuhs, C. Lerner
J. of Non-Cryst. Solids 164-166 (1993) 697

1992

215. *Microwave-induced resonant changes in transport and recombination in hydrogenated amorphous silicon*
K. Lips, S. Schütte, W. Fuhs
Phil. Mag. B 65 (1992) 945

1991

216. *Spin-dependent transport and recombination in a-Si:H*
K. Lips, W. Fuhs
J. of Non-Cryst. Solids 137&138 (1991) 255

1989

217. *Photoluminescence and optically detected magnetic resonance of a-Si:H_{1-x}C_x:H Films*
S. Liedtke, K. Lips, M. Bort, K. Jahn, W. Fuhs
J. of Non-Cryst. Solids 114 (1989) 522

Book Chapters:

1. *Electron Spin Resonance (ESR) in hydrogenated amorphous silicon (a-Si:H)* in *Advanced Characterization Techniques for Thin Film Solar Cells*, Wiley-VCH (2011)
K. Lips, M. Fehr, J. Behrends
2. *The investigation of charge carrier recombination and hopping transport with pulsed electrically detected magnetic resonance techniques* in „Charge transport in disordered solids with applications in electronics” John Wiley & Sons, edited by Sergei Baranovski (2006) 179-219
C. Boehme, K. Lips

1. **EPR-on-a-Chip: A revolution in spin based analytics?**
K. Lips
Physikalisches Kolloquium Universität Stuttgart, Germany, 19.1.2021
2. **EPR-on-a-Chip (EPRoC): groundbreaking analytics for energy research**
K. Lips
1st International EPR-on-a-chip Workshop
2.3.-4.3.2020 Universität Stuttgart, Germany
3. Open circuit voltages above 1.0 V in silicon heterojunction solar cells resolved on the atomic scale
K. Lips
Photovoltaic Seminar, Division Renewable Energy, HZB 30.10.2019
4. Characterization of a-Si:H/c-Si interfaces using UHV conductive AFM and ESR
M. Terferi, H. Malissa, C. Thi Trinh, A.B. Morales-Vilches, C. Williams, C. Boehme, K. Lips
28th International Conference on Amorphous and Nanocrystalline Semiconductors (ICANS28)
Ecole Polytechnique, Palaiseau, France, 4-9.8.2019
5. ESR and Defects and Tail States
K. Lips
28th International Conference on Amorphous and Nanocrystalline Semiconductors (ICANS28)
Ecole Polytechnique, Palaiseau, France, 4-9.8.2019
6. Looking for a needle in a haystack – light generated dangling bonds seen through the Electron Paramagnetic Resonance in hydrogenated amorphous silicon?
K. Lips
28th International Conference on Amorphous and Nanocrystalline Semiconductors (ICANS28)
Ecole Polytechnique, Palaiseau, France, 4-9.8.2019
7. Electron Paramagnetic Resonance-on-a-Chip (EPRoC) – a Paradigm Shift in Spin-Radical Analysis
K. Lips
Massenspektrometrie Seminar, University Rostock, Institute für Chemie. 21.5.2019
8. Licht und Schatten der Photovoltaik oder Terrawattstrom aus Sonnenlicht, aber was machen, wir wenn es dunkel wird?
K. Lips
Der Offene Hörsaal der Freien Universität Berlin: Zum Gedenken an Lise Meitner, FU Berlin,
17.12.2018
9. Photovoltaik: Terrawatt Strom aus Sonnenlicht
K. Lips
„Tag der Naturwissenschaften“, Robert-Havemann-Gymnasium, Berlin, 19.11.2018
10. Energy materials research at EMIL@BESSY II - challenges and perspectives
K. Lips
EERA-AMPEA Workshop on “Synchrotron Radiation and Neutron Scattering for Energy Materials”,
Berlin, Germany, 13.-14.11.2018
11. Prepare(d) for Impact-Next Generation Silicon Solar Cells
K. Lips
Colloquium of the Department of Physics, University of Regensburg, Germany, 25.6.2018
12. Ultra-sensitive operando detection of paramagnetic states in silicon solar cells
J. Möser, S. Künstner, A. Schnegg, J. Behrends, J. Anders, K. Lips
51st Annual Intern. Meeting ESR Spectroscopy Group of the Royal Society of Chemistry, Queen Mary
University of London, London 9.4.-12.4.2018
plenary talk
13. Operando Electron Paramagnetic Resonance (EPR) Using EPR-on-a-chip
K. Lips, S. Künstner, M. Ortman, J. Anders
MRS spring meeting, Phoenix, Az, USA 2.4.-6.4.2018
14. Challenges of operando spin spectroscopy of radicals in solar cells, solar fuel generators and batteries
K. Lips
Seminar of Working Group Prof. Dr. C. Roth, Institut für Chemie und Biochemie - Physikalische und
Theoretische Chemie, Freie Universität Berlin, Berlin, Germany 30.1.2018
15. Multifrequency EDMR at silicon heterointerfaces and implementation of EPR on a chip
J. Möser, S. Künstner, J. Behrends, J. Anders, A. Schnegg, H. Malissa, C. Boehme, K. Lips
Joint SPP1601/Shared EPR Conference: EPR - Present and Future, Mohonk Mountain House, New
Paltz, New York, USA, 9-12.10.2017

16. EMIL - A novel research platform for energy materials at the BESSY II synchrotron light source
K. Lips
ACATECH Workshop, Berlin, Germany 11.7.2017
17. Towards terawatt-scale photovoltaics –perspectives and challenges for energy materials research
K. Lips
Plenary talk at “Chemistry – a New Opening”, Kraków, Poland, 23.6.2017
18. New Strategies for Next Generation Silicon Solar Cells and Advanced Material Characterization at EMIL
K. Lips
Colloquium, Department of Physics & Astronomy, University of Utah, Salt Lake City, USA, 14.4.2017
19. Looking for a needle in a haystack – the mechanism of photodegradation and recombination in amorphous silicon revisited by electron paramagnetic resonance
K. Lips
Condensed Matter Seminar, Department of Physics & Astronomy, University of Utah, Salt Lake City, USA, 18.4.2017
20. EMIL - A novel research platform for energy materials at the BESSY II synchrotron light source
K. Lips
Joint ANSTO-HZB Workshop, Berlin, Germany 7.3.2017
21. Looking for a needle in a haystack – ultra-sensitive in operando detection and imaging of paramagnetic defects in silicon solar cells
K. Lips
Colloquium, Department of Physics, Universidade Estadual Paulista "Júlio de Mesquita Filho" , UNESP, Bauru, Brazil, 7.11.2016
22. Looking for a needle in a haystack – ultra-sensitive in operando detection and imaging of paramagnetic defects in silicon solar cells
K. Lips
Brazilian Humboldt Kolleg 2016, UFSCar, São Carlos, Brazil, 3.11.-5.11.2016
23. Ultra-Sensitive in-operando detection and imaging of paramagnetic defects in silicon solar cells
K. Lips, A. Schnegg, W. Akthar, J. Möser, I. Katz, A. Blank C. Meier, J. Behrends, J. Anders
IV Forum EMR-PL, Poznan, Poland, 27.6.-29.6.2016
24. Ultra-Sensitive in-operando detection and imaging of paramagnetic defects in silicon solar cells
K. Lips,
Sixth Annual Meeting of the Str. Andrews Centre of Magnetic Resonance, School of Chemistry, University of St. Andrews, Scotland, 6.6. 2016
25. Ultra-Sensitive in-operando detection and imaging of paramagnetic defects in silicon solar cells
K. Lips, A. Schnegg, W. Akthar, J. Möser, I. Katz, A. Blank C. Meier, J. Behrends, J. Anders
57th Experimental Nuclear Magnetic Resonance Conference (ENC), Pittsburgh, Pennsylvania, USA, 11.4.-15.4.2016
26. Multi-exciton generation via Singlet Fission – In search of charge separation in Tetracene/c-Si hybrid solar cells
M. Liebhaber, R.W. MacQueen, M.J.Y. Tayebjee, T.F. Schulze, J. Niederhausen, C. Gersmann, J. Behrends, T.W. Schmidt, and K. Lips
Quantsol winter workshop, Rauris, Austria, 13.3.-18.3.2016
27. EMIL and the detectives – How X-ray and magnetic fingerprints help to identify loss mechanisms in silicon solar cells
K. Lips
Colloquium of the Faculty of Physics, TU Ilmenau, 5.1.2016
28. Ultra-sensitive in-operando detection and imaging of paramagnetic defects in silicon solar cells
K. Lips, A. Schnegg, M. Fehr, B.M. George, W. Akthar, I. Katz, A. Blank
ISMAR 2015 conference, Shanghai, China, 16.8.-21.8.2015
29. K. Lips. EMIL - a novel research platform for energy materials at the BESSY II synchrotron light source
Plenary Lecture VII AUSE Congress & II ALBA User Meeting, Barcelone, Spain, 16.6- 19.06.2015,
30. K. Lips. EMIL - a novel research platform for thin-film photovoltaics (and beyond) at the BESSY II synchrotron light source, Keynote Talk PVCT, Aix-en-Provence, France, 27.5.-29.5.2015.
31. K. Lips. EMIL – a novel characterization platform for energy materials research at the BESSY II synchrotron light source, Kolloquiumsvortrag SPREE, UNSW, Sydney, Australia, 23.4.2015
32. K. Lips. EMIL – a novel characterization platform for energy materials research at the BESSY II synchrotron light source, Kolloquiumsvortrag Australian Synchrotron, Melbourne, Australia, 16.4.2015
33. K. Lips. EMIL – a novel characterization platform for energy materials research at the BESSY II synchrotron light source, MEMSI Seminar Monash, Melbourne, Australia 16.4.2015
34. K. Lips. EMIL (Energy Materials In-Situ Laboratory Berlin) - a novel research platform for next generation solar energy materials at the BESSY II synchrotron light source

- Materialwissenschaftliches Kolloquium der Universität Freiburg und ISE, 13.2.2015
35. EMIL – a novel research platform at the Berlin synchrotron for energy materials research,
K. Lips
Tender X-Ray Workshop 2014, Berlin, Germany, 1.12.-2.12.2014
 36. Schlüsselmaterialien für Technologiedurchbrüche
K. Lips, G. Reichenauer, T. Kirchartz, W. Wischmann, M. Schmücker, S. Henninger, R. Reineke-Koch,
B. Groß, B. Rech, Jahrestagung des Forschungsverbunds Erneuerbare Energien (FVEE), Berlin,
Germany, 6.11.-7.11.2014
 37. SISSY@EMIL – eine neue wissenschaftliche Infrastruktur am Berliner Synchrotron für die Herstellung
und Untersuchung von Materialien für Photovoltaik und Katalyse
K. Lips
Abschlusskonferenz der Innovationsallianz Photovoltaik, Berlin Germany, 6.10.2014
 38. EMIL – Now and Then
K. Lips
FZJ-HZB Seminar, Hirschegg, Austria, 24.8.-27.8.2014
 39. EMIL – a novel research platform for next generation solar energy materials at BESSY II
K. Lips
Quantsol winter workshop, Rauris, Austria, 16.3.-22.3.2014
 40. EMIL – a novel research platform for novel solar energy materials at BESSY II: Current status and next
steps
K. Lips
562. Wilhelm und Else Heraeus Workshop „From Sunlight to Fuels - Novel Materials and Processes
for Photovoltaic and (Photo)Catalytic Applications”, Physikzentrum Bad Honnef, Germany, 11.-
16.5.2014
 41. EMIL – a novel research platform at the Berlin synchrotron for photovoltaic and solar fuel materials
K. Lips
Spring Meeting of the European Materials Research Society, Lille, France, May 26-30, 2014
 42. EMIL – a novel research platform at the Berlin synchrotron for photovoltaic and solar fuel materials
K. Lips
CALTEC, Pasadena, Ca, USA, 12.6.2014
 43. EMIL – a novel research platform at the Berlin synchrotron for photovoltaic and solar fuel materials
K. Lips
Sophia Workshop, Berlin; Germany 25.6.-27.6.2014
 44. EMIL – A novel research platform for next generation solar energy materials at BESSY II
K. Lips, D. Starr, T. Schulze, M. Bär,
Hannwah Q Cells GmbH, Bitterfeld-Wolfen 31.7.2013
 45. EMIL – A novel research platform for next generation solar energy materials at BESSY II
K. Lips
National Renewable Energy Laboratory (NREL), Golden, Co, USA, 26.8.2013
 46. EMIL – A novel research platform for next generation solar energy materials at BESSY II
K. Lips
BESSY II User Meeting, Berlin 6.12.2013
 47. EMIL (Energy Material In-Situ Laboratory Berlin) - Eine wissenschaftliche Herausforderung
Klaus Lips
Statuskolloquium der Innovationsallianz, Berlin 29.4.2013
 48. EMIL (Energy Material In-Situ Laboratory Berlin) - Eine wissenschaftliche Herausforderung
Klaus Lips
Metallkundekolloquium der Werkstoffforschung für Wirtschaft und Gesellschaft, Lech Österreich,
15.4.2013
 49. Atomic Structure of Interface States in a-Si:H / c-Si Heterojunction Solar Cells
Lips, K.; George, B.; Behrends, J.; Schnegg, A.; Schulze, T.; Fehr, M.s; Korte, L.; Rech, B.;
Rohrmüller, M.; Rauls, E.; Schmidt, W.G.; Gerstmann, U.
Workshop „Spins as Functional Probes in Solar Energy Research“ Berlin, Germany, 10.04.2013 -
12.04.2013
 50. Electrical detection of EPR
K. Lips
The 6th EFRPR School on Advanced Electron Paramagnetic Resonance (EPR) Spectroscopy
12.1.-18.1.2013, Weizmann Institute of Science, Rehovot, Israel
 51. What can we learn about amorphous silicon from Electron Paramagnetic Resonance (EPR)? – looking
for a needle in a haystack
K. Lips
Seminar of the Department “Photovoltaic Materials and Devices” of the Delft University of Technology
(TU Delft), Delft, Netherlands 15.11.2012

52. Photochemical Upconversion Applied to Organic and Thin Film Silicon Solar Cells
T. F. Schulze, J. Czolk, Y.-Y. Cheng, B. Fückel, R. W. MacQueen, T. Khoury, M. J. Crossley, U. Lemmer, A. Colsmann, B. Stannowski, Klaus Lips, and T. W. Schmidt.
The Optical Society of America (OSA) conference “Optical Nanostructures and Advanced Materials for Photovoltaics (PV)”, Eindhoven, Netherlands, 12.-14.11.2012
53. Three lectures on spectroscopy for Materials for Photovoltaic Applications – 1. EPR for silicon PV research; 2. Electrically detected magnetic resonance for PV; 3. Overview of the planned EMIL lab
K. Lips
Sophia workshop on analytical tools for PV, Helmholtz-Zentrum Berlin, Germany 29.10.-2.11.2012
54. Spin-dependent transport in fully processed silicon solar cells studied by pulsed Multifrequency Electrically Detected Magnetic Resonance below 600 MHz/20 mT and at 263 GHz/9.4 T
K. Lips
New frontiers in sensitivity for EPR spectroscopy: from biological cells to nano materials, Halle/Saale, Germany, 20-22.09.2012
55. Four lectures on Silicon Photovoltaics
K. Lips
International Summer School on Photovoltaics and New Concepts of Quantum Solar Energy Conversion (Quantsol)
Hirschegg, Austria, 9.9.-16.9.2012
56. Three Lectures at Humboldt University Berlin (HUB) on Photovoltaics (Ringvorlesung)
K. Lips
HUB, Berlin, Germany 13.6.–27.6.2012
57. EMIL and the Detectors – a new scientific edition
K. Lips
Joint Workshop of FZJ and HZB, Hirschegg, Klöeinwalsertal, Austria, 12.8.-16.8.2012
58. Turbo for Solar Cells – Boosting Australian-German Collaborative Research-
K. Lips
AUSTRALIA - GERMANY SOLAR FUTURE FORUM Australian Embassy in Berlin, 5.6.2012
59. New Strategies for the Advanced Characterization for Solar Cells
K. Lips
Seminar of the Dept. of Materials, Oxford University, Oxford, England 22.5.2012
60. Photochemical Upconversion for Thin-Film Solar Cells
Seminar of the Department of Solar Energy and Environmental Physics, Jacob Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev, Sde Boqer, Israel, 18.12.2011
61. Potential of Photovoltaics
K. Lips & H.-W. Schock
Minerva School on Alternative, Sustainable Energy Options, Nazareth, Israel, 11.12.-15.12.2011
62. Electrical detection of pulsed EPR in solar cells
K. Lips
Seminar of Magnetic Resonance, Weizmann Institute, Rehovot, Israel, 8.12.2011
63. Thin-film photovoltaics – a huge potential and a grand challenge
K. Lips
Grand Technion Energy Program, Schulich Faculty of Chemistry, Technion, Haifa, Israel, 6.12.2011
64. Photochemical Upconversion for Amorphous Silicon Solar Cells
K. Lips
Annual Meeting of the International Solar Energy Society/Israel Sustainable Energy Society. Tel Aviv, Israel, 5.10.2011
65. Four lectures on Silicon Photovoltaics
K. Lips
International Summer School on Photovoltaics and New Concepts of Quantum Solar Energy Conversion, Hirschegg, Austria, 11.9.-17.9.2011
66. Spin-dependent processes in OPV
K. Lips
Joint workshop of KIT, HZB and The University of Queensland within the International Collaboration on Education and Research between Germany and Australia
Brisbane, Qld, Australia 6.6.-10.6.2011
67. Thin-film silicon photovoltaics – a huge potential and a grand challenge
K. Lips
Colloquium of the Charles Darwin University, Darwin, Australia, 27.5.2011
68. Collaborative research in renewable energy in Germany – a basic researcher’s view
K. Lips
Powering Australia's Innovation System: Strengthening links between industry and public research – meeting of the ATSE, Sydney, Australia, 17.-18.5.2011

69. What can we learn about amorphous silicon solar cells from Electron Paramagnetic Resonance (EPR)?
– looking for a needle in a haystack
K. Lips
Colloquium of the School of Chemistry, The University of Sydney, Sydney, UNSW, Australia, 25.3.2011
70. EPR applications in thin-film silicon photovoltaics – a huge potential and a grand challenge
K. Lips
Condensed Matter and Materials Physics (CMMP 10), Warwick, England, 14.12. – 16.12.2010
71. Green Technologies at the Helmholtz Association's Energy Research Centres
K. Lips
Meeting between the Japan Research Industries Association – JRIA and representatives of the Helmholtz Association of German Research Centres, Berlin, Germany, 17.11.2010
72. Advanced Analytics for Thin-Film Silicon Solar Cell Characterization
K. Lips
Workshop „Analytical Trends and Needs for Nanotechnologies”, PTB, Berlin, Germany, 8.11.2010
73. Spins in Solarzellen: der magnetische Schlüssel zur Wirkungsgradsteigerung?
K. Lips
Physical Colloquium of the Technical University Dortmund, Dortmund, Germany, 26.10.2010
74. Sissy–the Silicon In-Situ lab at the Synchrotron beamline
K. Lips
Workshop HZB-FZJ, Hirschegg, Kleinwalsertal, Austria, 26.10.-2.10.2010
75. Four lectures on Silicon Photovoltaics
K. Lips
International Summer School on Photovoltaics and New Concepts of Quantum Solar Energy Conversion, Hirschegg, Austria, 18.9.-25.9.2010
76. EPR in Thin Film Photovoltaics–a huge potential and a grand challenge
K. Lips, J. Behrends, M. Fehr, A. Schnegg, B. Rech
DFG Round Table Meeting, Hirschegg, Austria, 8.9.–11.9.2010
77. Four Lectures at Humboldt University Berlin (HUB) on Photovoltaics (Ringvorlesung)
K. Lips
HUB, Berlin, Germany 19.5.–30.6.2010
78. Thin film silicon photovoltaics–a huge potential and a grand challenge
K. Lips
Kolloquium des Leibniz-Instituts für Festkörper- und Werkstoffforschung (IWF), Dresden, 11.5.2010
79. Achievements and Challenges of Solid-Phase Crystallization of Amorphous Silicon for Thin Film Solar Cells
K. Lips
22th workshop on Quantum Solar Energy Conversion (Quantsol), Briegels, Zwitterland, 7.3- 12.3.2010
80. Thin film silicon photovoltaics–a huge potential and a grand challenge
K. Lips
Colloquium of the Sydney University Chemical Society, Sydney, Australia, 24.2.2010
81. Thin film silicon photovoltaics–a huge potential and a grand challenge
K. Lips
Colloquium of the Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong, Australia, 23.2.2010
82. Thin film silicon photovoltaics–a huge potential and a grand challenge
K. Lips
Colloquium of the Department of Chemistry, Oxford University, Oxford, UK, 9.2.2010
83. Four lectures on Silicon Photovoltaics
K. Lips
International Summer School on Photovoltaics and New Concepts of Quantum Solar Energy Conversion, Hirschegg, Austria, 13.9.-20.9.2009
84. Electrical detection of pulsed EPR in silicon solar cells
K. Lips
7th Meeting of the European Federation of EPR Groups (EFEPR-09), Antwerpen, Belgium, 6.9.- 11.9.2009
85. The Staebler-Wronski effect in a-Si:H revisited with novel Electron Paramagnetic Resonance (EPR) spectroscopic tools
K. Lips
23rd International Conference on amorphous and Nanocrystalline Semiconductors (ICANS); Utrecht, Netherlands, 24.8.-28.8.2009
86. Thin-Film Photovoltaics – a huge potential and a grand challenge
K. Lips

- Gordon Research Conference on Photosynthesis (GRC), Bryant University, Smithfield, RI, USA, 27.6-3.7.2009
87. Electrical detection of pulsed ESR in thin-film solar cells
K. Lips
11th International Workshop on Electron Magnetic Resonance of Disordered Systems (EMARDIS), Sofia, Bulgaria, 11.6.-18.6.2009
 88. Elektrische Detektion von kohärenten Spinzuständen in Silizium Solarzellen
K. Lips
Kolloquium der Arbeitsgruppen Energie- und Halbleiterforschung (EHF), Oldenburg, Germany, 25.5.2009
 89. The EPR-Solar Strategy to unravel the Staebler-Wronski-Effekt
K. Lips
1st International Workshop on the Staebler-Wronski-Effect (IWSWE), Berlin, Germany, 19.4–22.4.2009
 90. Challenges of structural, chemical, and electronic characterization of thin-film materials for silicon photovoltaics
K. Lips, F. Ruske, B. Rech
OptecBB Fokusseminar „Röntgenstrahlen treffen Photovoltaik“, Berlin, Germany, 6.5.2009
 91. Evidence for radical pair recombination at room temperature in MEH:PPV bulk heterojunction organic solar cells studied by pulsed electrically detected magnetic resonance
J. Behrends, K. Lips, A. Schnegg, E.A. Thomsen, A.K. Pandey, I.D.W. Samuel, D.J. Keeble
Quantsol 2009, Rauris, Austria, 7.3.2009–13.3.2009
 92. Magnetische Resonanz Spektroskopie mit Thz Strahlung
K. Lips
Fokusseminar »Terahertz-Technologie und ihre Anwendungen«, Groß Dölln, Germany 13.11.2008–13.11.2008
 93. Fourier Transform THz EPR on single molecular magnets
Schnegg, A.; Behrends, J.; Lips, K. ; Bittl, R.; Bill, E.; Holldack, K.
31th International EPR Symposium, Breckenridge, USA, 27.07.2008–31.07.2008
 94. Silicon Photovoltaics
K. Lips
European Summer School on Photovoltaics and New Concepts of Quantum Solar Energy Conversion Hirscheegg, Austria, 14.09.2008–21.09.2008
 95. Qubits in Silicon
K. Lips
International Summer School on Physics at Nanoscale Devět Skal, Tschechien, 16.06.2008–21.06.2008
 96. Determination of large Zero Field Splittings by Fourier-Transform THz EPR
A. Schnegg, J. Behrends, K. Lips, R. Bittl, K. Holldack
NHMFL Institute Seminar, Tallahassee, FL, USA, 19.05.2008
 97. Electrical detection of pulsed EPR in silicon
K. Lips
41st Annual International Meeting of the Electron Spin Resonance Group of the Royal Society of Chemistry, University College London, London, England, 6.4.2008-10.4.2008
 98. Fourier-Transform THz Magnetic-Resonance at BESSY
K. Lips, A. Schnegg, J. Behrends, R. Bittl, K. Holldack
Wissenschaftlicher Beirat BESS, Berlin, Germany, 7.4.2008
 99. Spins in Silizium-Solarzellen
K. Lips
Seminarvortrag RWTH Aachen, 25.01.2008
 100. Electrical detection of pulsed EPR in silicon
K. Lips
GDCh-meeting on Magnetic Resonance in Biophysical Chemistry, Göttingen, Germany, 26.9–29.9.2007
 101. New approaches in EPR spectroscopy to study old problems in amorphous and microcrystalline silicon
K. Lips
Colloquium of the National Renewable Energy Laboratory (NREL), Golden, Colorado, USA, 28.8.2007
 102. Quantenbits in Silizium
K. Lips
Physikalisches Kolloquium der Universität Würzburg, 2.7.2007
Electrical readout of spin information in silicon-based quantum computers
K. Lips, C. Boehme, A. Stegner, H. Huebel, M. Stutzmann, M. Brandt
E-MRS 2007 Spring Meeting, Strasbourg, France, 28. May 28th to 1. June 2007

103. Analytik für die Photovoltaik
K. Lips
Industrietag, Hahn-Meitner-Institut Berlin, Berlin, 27.11.2006
104. Elektrische Detektion kohärenter Spinzustände in Festkörpern
K. Lips
Colloquium of the Department of Physics, Philipps University, Marburg, Germany, 13.11.2006
105. Electrical detection of coherent spin information with the Bruker Elexsys E580 spectrometer
K. Lips
2. EPR Anwendertreffen, Bruker, Rheinstetten, Germany, 6.10.2006
106. Defects in silicon devices investigated with pulsed electrically detected magnetic resonance
K. Lips
48th Rocky Mountain Conference on Analytical Chemistry, Breckenridge, Colorado, USA, July 23-27 2006
107. Ultrasensitive defect spectroscopy with coherent pulsed optically and electrically detected magnetic resonance
C. Boehme, K. Lips
International Conference on Optical and Optoelectronic Properties of Materials and Applications, Darwin, Australia, 17. July–21. July 2006
108. Thin-film crystalline silicon solar cells on glass substrates
K. Lips
“Photovoltaics – the Third Generation and the Way to it” Conference held in honour of the 80th birthday of Karl Wolfgang Böer, Berlin-Adlershof, Germany, 4. May–5. May 2006
109. The electrical detection of coherent spin states in silicon
K. Lips and C. Boehme
Workshop „Electron Spin Resonance and related phenomena in low dimensional structures”
Sanremo, Italy, March 6-8, 2006
110. Structural and Chemical Characterization
K. Lips
1st International Summer Academy on Photovoltaics, Berlin, Germany, Aug. 28th – Sept. 4th, 2005
111. The ultra-sensitive electrical detection of spin Rabi oscillation at paramagnetic defects
C. Boehme, K. Lips
23rd International Conference on Defects in Semiconductors, Awaji Island, Japan, July, 28, 2005
112. Magnetic fingerprints in the photocurrent of silicon solar cells
K. Lips
PV Seminar, NREL, Golden, Co, USA, 4.4.2005
113. The role of the electron spin in charge carrier trapping
Lips, K., Boehme, C.
17th Workshop on Quantum Solar Energy Conversion–QUANTSOL 2005 Rauris, Österreich, 14.-18.3.2005
114. Magnetic fingerprints in the photocurrent of silicon solar cells
K. Lips
Ornstein Colloquium, Debye Institute, University of Utrecht, Netherlands, 17.12.2004
115. The impact of the electron spin on charge carrier recombination – the example of amorphous silicon
K. Lips, C. Boehme, T. Ehara
Plenary Lecture (Georges Nadjakoff Lecture) of the 13th Intern. School on Condensed Matter Physics „ISCPM”, Varna, Bulgarien, 30.8.-3.9.2004
116. Defect characterization with coherent spin motion experiments
Lips, K., Boehme, C.
16th Workshop on Quantum Solar Energy Conversion–QUANTSOL 2004 Bad Gastein, Österreich, 15.-19.3.2004
117. Spezielle Analytik für die Photovoltaik
A. Klein, K. Lips
joined Workshop of the PV-Uni-Netz and FVS
“Photovoltaik: Materialforschung in Deutschland”
Berlin, 11.12.-12.12.2003
118. Materialforschung mit neuen analytischen Methoden
Rein, S., Lips, K., Schmidt, J.
FVS Jahrestagung „Photovoltaik–Neue Horizonte”, Berlin, 25.9.2003
119. The nature of dangling bond recombination in $\mu\text{-Si:H}$
Boehme, C., Lips, K.
20th International Conference on amorphous and microcrystalline Semiconductors, Campos do Jordao, Brazil, 28.8.2003

120. Recombination in pin $\mu\text{-Si:H}$ solar cells
Lips, K., Boehme, C.
 Seminar des IPV, Forschungszentrum Jülich
 17.7.2003
121. Foundations and applications of pulsed Electrically Detected Magnetic Resonance
Boehme, C., Lips, K.
 Carls von Ossietzky Universität, Oldenburg, Germany, 25.6.2003
122. Overview of ESR activities at HMI
Lips, K.
 Carls von Ossietzky Universität, Oldenburg, Germany, 25.6.2003
123. Grundlagen und Anwendungen gepulster elektrisch detektierter magnetischer Resonanz
Boehme, C.; Lips, K.
 Walter Schottky Institut, Technical University Munich, Munich, 9.5.2003
124. The nature of dangling bond recombination in $\mu\text{-Si:H}$
 Boehme, C., Lips, K., Fuhs, W.
 Amorphous and thin film semiconductors, spring meeting 2003
 Robinson College, Cambridge, England, 3.4.2003
125. Die Solarzelle aus Zahnpasta und Fruchtee: Vom Spielzeug zur Siliziumdünnschichttechnologie
 K. Lips
 Freitagskolloquium, Life-Science Lab, DKFZ Heidelberg, 7.11.2002
126. Recombination echoes in disordered silicon
K. Lips, C. Boehme
 12th Intern. School on Condensed Matter Physics „ISCPM”,
 Varna, Bulgarien, 2.9.-6.9.2002
127. Fullerenes as Atomic Traps for Nitrogen – Steps towards Solid State Quantum Computers
K. Lips
 12th Intern. School on Condensed Matter Physics ‘ISCMP’, Varna, Bulgarien, 2.-6.9.2002
128. Neue Dünnschichtmaterialien für die Photovoltaik–Silizium auf Glas
K. Lips
 Colloquium of the Institut für Hochfrequenztechnik
 Technische Universität Braunschweig, Braunschweig, 20.6.2002
129. From spin to spin-dependence–recombination echoes in $\mu\text{-Si:H}$
K. Lips
 Colloquium of the Solid State Physics Department, University of Miami
 Dep. of Physics, Miami, USA, 6.6.2002
130. From spin to spin-dependence–recombination echoes in $\mu\text{-Si:H}$
K. Lips
 Physical Colloquium, Penn State University, Pennsylvania, USA, 16.5.2002
131. Coherent spin motion of recombining charge carriers in $\mu\text{-Si:H}$
K. Lips, C. Boehme
 Evaluation of Solar Energy Division at HMI, Berlin, 18.4.2002
132. Elektronen Spin Resonanz–Vom Spinecho in die Spinabhängigkeit
K. Lips, C. Boehme
 Doktorandenseminar, HMI-Wannsee, 14.3.2002
133. Pulsed Electrically Detected ESR in Semiconductors
K. Lips
 2. Seminar des Arbeitsbereichs Materialwissenschaften „Elektronisch aktive Grenzflächen”, Hanse-
 Wissenschaftskolleg, Delmenhorst, 7.2.2002
134. Das Rekombinationsecho – Wege in die Spinabhängigkeit
K. Lips
 Halbleiterseminar der TU-München, Garching, 5.2.2002
135. Fullerene als Atomfallen für Stickstoff und Phosphor–von der Atomraschel zum Quantencomputer
K. Lips
 Physikalisches Kolloquium der Universität Gießen, 14.5.2001
136. Atomic Nitrogen inside Fullerenes (N@C60), an Unique Spin System
K. Lips
 Halbleiterseminar, TU München, 21.12.2000
137. Spin-Dependent Processes in Thin-Film Silicon Solar Cells
K. Lips, R. Müller, P. Kanschat, W. Fuhs, F. Finger
 MRS Spring Meeting, San Francisco, USA, 25.-28.4.2000

138. Atomic Nitrogen inside Fullerenes (N@C60), an Unique Spin System
K. Lips
 Kolloquium des SERF, NREL, Golden, Colorado, USA, 1.5.2000
139. Bandtails and Defects in Microcrystalline Silicon ($\mu\text{-Si:H}$)
W. Fuhs, P. Kanschat, K. Lips
 Intern. Conf. on Silicon Dielectric Interfaces, Raleigh, USA, 25.-27.2.2000
140. Atoms in molecular cages
B. Pietzak, M. Waiblinger, K. Lips, A. Weidinger
 Electronic Properties of Novel Materials: XIII International Winterschool
 Kirchberg, Austria, 3.3.1999
141. Atomic Nitrogen Encapsulated in Fullerenes: Realization of an Ideal Chemical Faraday Cage
K. Lips
 Kolloquium des Center for Nano Science, LMU, München, 3.12.1999
142. Atomic Nitrogen Encapsulated in Fullerenes: Proof of an Ideal Chemical Faraday Cage
K. Lips, M. Waiblinger, B. Pietzak, A. Weidinger
 216. WE-Heraeus-Seminar, TU Ilmenau, 1. 6.1999
143. Fullerene als chemische Atomfallen für Stickstoff und Phosphor
K. Lips
 Universitätskolloquium des FB Physik, Universität Oldenburg,
 28.6.1999
144. Atomic Nitrogen Encapsulated in Fullerenes: Realization of an Ideal
 Chemical Faraday Cage
K. Lips
 Institutskolloquium des A. F. Ioffe Institut, St. Petersburg, Russland,
 17.6.1999
145. Dünnschichtsolarzellen auf der Basis von Silizium
K. Lips
 Kolloquium im Rahmen des Graduiertenkollegs, Universität Regensburg,
 26.2.1999
146. Microcrystalline and Epitaxially Grown Silicon for Solar Cell
 Applications
K. Lips
 Seminarvortrag, Debye Institut der Universität Utrecht, Niederlande, 1.2.1999
147. Preparation and Characterization of Microcrystalline and Epitaxially
 Grown Emitter Layers for Silicon Solar Cells.
K. Lips
 Kolloquium des SERF, NREL, Golden Co, USA, 10.12.1998
148. Spin-dependent recombination in Hydrogenated Amorphous
 Silicon Schottky Barrier Devices.
K. Lips, C. Lerner, W. Fuhs
 10th Intern. School on Condensed Matter Physics „ISCPM“, Varna, Bulgarien, 31.8.-4.9.1998
149. Dünnschichtsolarzellen auf der Basis von Silizium.
K. Lips
 Solarenergiekolloquium der Ludwig-Maximilians-Universität München, Sektion Physik, 20.06.1997
150. ESR and Spin-Dependent Transport in Microcrystalline Silicon and Related Materials
K. Lips
 Universität Leuven, Belgien, 28.05.1997
151. Spinabhängiger Transport in Bauelementen auf der Basis von amorphem Silizium: Eine Einführung in
 die Geheimnisse einer hochempfindlichen Elektronen-Resonanz-Spektroskopie
K. Lips
 Institut für Angewandte Photophysik (IAPP), TU Dresden, 18.7.1996
152. Semiclassical model of EDMR in undoped a-Si:H and spin-dependent recombination effects in a-Si:H
 pin solar cell devices
K. Lips
 International Workshop on Electrically Detected Magnetic Resonance, 29-30.7.1996, Walter Schottky
 Institut, Technische Universität München
153. Spinabhängiger Transport in Bauelementen auf der Basis von amorphem Silizium: Eine Einführung in
 die Geheimnisse einer hochempfindlichen Elektronen-Resonanz-Spektroskopie
K. Lips
 Fachbereich Physik, Universität Oldenburg, 23.5.1996
154. Spin-dependent recombination effects in a-Si:H pin solar cell devices: a new characterization technique
K. Lips

- Colloquium, National Renewable Energy Laboratory, Basic Science Division, Golden, Colorado, USA (1995)
155. Spin-dependent recombination effects in a-Si:H pin solar cell devices: a new characterization technique
K. Lips
 Physical Colloquium, Colorado School of Mines, Department of Physics, Golden, Colorado, USA (1995)
156. Slow dangling bond relaxation in a-Si:H: an artifact?
K. Lips
 Halbleiterseminar, Phillips-Universität Marburg, Fachbereich Physik (1995)
157. Spin-dependent recombination effects in a-Si:H pin solar cell devices: a new characterization technique
K. Lips
 National Institute for Advanced Interdisciplinary Research, Tsukuba, Japan (1995)
158. Spin-dependent recombination effects in a-Si:H pin solar cell devices: a new characterization technique
K. Lips
 MRS Spring Meeting, San Francisco, USA, 1995
159. Spinabhängigkeit von Transport und Rekombination in Filmen und Solarzellen aus amorphem Silizium
K. Lips
 Seminar, Institut für Schicht- und Ionentechnik, Abteilung PV, Forschungszentrum Jülich (1994)
160. Spinabhängigkeit von Transport und Rekombination in Filmen und Solarzellen aus amorphem Silizium
K. Lips
 Halbleiterseminar, Fachbereich Physik, Universität Bayreuth (1994)
161. Electrically detected magnetic resonance in a-Si:H pin cells
K. Lips
 Colloquium, Xerox, Palo Alto, USA (1993).
162. Electrically detected magnetic resonance in a-Si:H pin cells
K. Lips
 Seminar, Department of Physics, University of Utah, USA (1993).
163. Spinabhängigkeit von Transport und Rekombination in amorphem Silizium: ein Überblick
K. Lips
 Interdisziplinäres Kolloquium des Wissenschaftlichen Zentrums für Materialwissenschaften, Universität Marburg, (1993)

Additionally, me and my coworkers have presented over 400 further talks and posters at international workshops und conferences.

At HZB I participated in developing national and international cooperations with numerous research institutions (e.g., UNSW, USYD, Monash, IMEC, NREL, University of Utah, Joffe-Institut, NCSU, Lomonossov Universität, FEP Dresden, UNSW, USYD, University of Utah). I played a leading role in acquiring third-party funding for HZB through DFG, GIF, EU, BMBF, BMU, Kopernikus, INTAS etc, and to initiate cooperation with industry (e.g., Bruker, Q-Cells, Sontor, Spectra-Physics, Bruker, Arise, Schott-Solar, Ardenne).

In the last five years I was capable of acquiring funding of over 21 M€ as principle investigator.

2021-2023	AFM for optical and single spin measurements: total funding from Park Sytems: 300 T€
2020-2021	TT-Project Q-Bits in nanodiamond: 30 T€
2019-2021	BMBF-Project “EPR-on-a-chip”: total funding 6.7 M€
2018	DFG Mobility Grant within SPP1601, 4000€
2018	DAAD Mobility Grant Australia 10T€
2016-2021	Helmholtz Energy Materials Foundary, Project “EPR-on-a-chip for detecting paramagnetic states in harsh environments” 300T€for investment, no personal
2016	DFG Mobility Grant within SPP1601, 6000€
2015-2018	DFG project „Spin-dependent transport in fully processed silicon solar cells studied by pulsed Multifrequency EDMR below 600 MHz/20 mT and at 263 GHz/9.4 T” within the priority program SPP 1601 of the DFG „New frontiers in sensitivity for EPR spectroscopy: from biological cells to nano materials”, Total about . 210 T €
2015	DAAD/Go8 project “Organic spectral conversion for solar energy applications”, 6400 €
2013-2017	Helmholtz Energy Materials Characterization Platform: New deposition and characterization tools for the EMIL Laboratory: total 7.4 M€
2012–2015	DFG project „Spin-dependent transport in fully processed silicon solar cells studied by pulsed Multifrequency Electrically Detected Magnetic Resonance below 600 MHz/20 mT and at 263 GHz/9.4 T” within the priority program SPP 1601 of the DFG „New frontiers in sensitivity for EPR spectroscopy: from biological cells to nano materials”, Total about . 300 T €
2011–2012	DFG project to initiate a German-Australian Cooperation „Photochemical upconversion for 3 rd generation photovoltaic devices”. Funding 11.4 T €
2011–2017	BMBF Project SISSY. Funding 5.7 M €
2010–2013	GIF Project in collaboration with Technion, Haifa) on „Nanometer-resolved Defect Spin Mapping in Polycrystalline Silicon Solar Cells with advanced ESR Methodologies” (Nano Desperado) Funding 90 T €
2008–2012	BMBF Project EPR-Solar: Total funding 4.2 M €