

List of Publications

Reinhart Job

100 publications in scientific journals	p. 1
126 publications in conference proceedings	p. 14
48 invited talk, seminars, keynote speeches	p. 31
9 books and book chapters	p. 36
5 miscellaneous publications (habilitation treatise, PhD thesis, diploma thesis, etc.)	p. 38
25 contributions to the meetings of the German Physical Society (DPG)	p. 39
2 books in preparation	p. 42

100 publications in scientific journals:

1. *"Model based prediction of the trap limited diffusion of hydrogen in post-hydrogenated amorphous silicon"*
S. Gerke, H.-W. Becker, D. Rogalla, R. Job, B. Terheiden
physica status solidi (RRL), 1-5 (2016)
DOI 10.1002/pssr.201600303
2. *"Capacitance-voltage spectroscopy and analysis of dielectric intrinsic amorphous silicon thin films"*
S. Gerke, G. Micard, R. Job, G. Hahn, B. Terheiden;
physica status solidi (c), 1-5 (2016)
DOI 10.1002/pssc.201600019
3. *"Al-density variation as one driving force for void formation in PERC solar cells"*
R. Horbelt, S. Ebert, V. Ulbikaite, G. Hahn, R. Job, B. Terheiden;
physica status solidi (RRL), 1-5 (2016)
DOI 10.1002/pssr.20160007853
4. *"Characterization of local Al-contacts by light beam induced current measurements and their verification by 2D simulation using flexPDE"*
R. Horbelt, G. Micard, P. Keller, G. Hahn, R. Job, B. Terheiden;
physica status solidi (a) 213, 1317 (2016)
DOI 10.1002/pssa.201532753
5. *"Influence of post-hydrogenation upon electrical, optical and structural properties of hydrogen-less sputter-deposited amorphous silicon"*
S. Gerke, H.-W. Becker, D. Rogalla, F. Singer, N. Brinkmann, S. Fritz, A. Hammud,
P. Keller, D. Skorka, D. Sommer, C. Weiß, S. Flege, G. Hahn, R. Job, B. Terheiden;
Thin Solid Films 598, 161 (2016),
DOI 10.1016/j.tsf.2015.11.063
6. *"Surface Recombination Velocity of Local Al-contacts of PERC Solar Cells Determined from LBIC Measurements and 2D Simulation"*
R. Horbelt, G- Micard, P. Keller, R. Job, G. Hahn, B. Terheiden;
Energy Procedia 92, 82 (2016)
DOI 10.1016/j.egypro.2016.07.033
7. *"Metastable Defects in Proton Implanted and Annealed Silicon"*
M. Jelinek, J. G. Laven, N. Ganagona, R. Job, W. Schustereder, H.-J. Schulze,
M. Rommel, L. Frey;
Solid State Phenomena 242, 169 (2016)
DOI: 10.4028/www.scientific.net/SSP.242.169
8. *"Void formation in PERC solar cells and their impact on the electrical cell parameters verified by luminescence and scanning acoustic microscope measurements"*
R. Horbelt, G. Hahn, R. Job, B. Terheiden;
Energy Procedia 84, 47 (2015)
DOI: 10.1016/j.egypro.2015.12.294
9. *"About Nuclear Resonant Reaction Analysis for Hydrogen Investigations in Amorphous Silicon Layers"*
S. Gerke, H.-W. Becker, D. Rogalla, G. Hahn, R. Job, B. Terheiden;
Energy Procedia 84, 99 (2015)
DOI: 10.1016/j.egypro.2015.12.301

10. *"Bias-plasma for RF magnetron sputter deposition of hydrogen-less amorphous silicon layers"*
S. Gerke, G. Hahn, R. Job, B. Terheiden;
Energy Procedia 84, 105 (2015)
DOI: 10.1016/j.egypro.2015.12.302
11. *"Comparison of BO Regeneration dynamics in PERC and Al-BSF solar cells"*
A. Herguth, R. Horbelt, S. Wilking, R. Job, G. Hahn;
Energy Procedia 77, 75 (2015)
DOI: 10.1016/j.egypro.2015.07.012
12. *"Morphology and Hydrogen in Passivating Amorphous Silicon Layers"*
S. Gerke, H.-W. Becker, D. Rogalla, G. Hahn, R. Job, B. Terheiden;
Energy Procedia 77, 791 (2015)
DOI: 10.1016/j.egypro.2015.07.112
13. *"DLTS Characterization of Proton Implanted Silicon under Varying Annealing Conditions"*
J. G. Laven, M. Jelinek, R. Job, H.-J. Schulze, W. Schustereder, S. Kirnstötter,
M. Rommel, L. Frey;
phys. stat. solidi (b), 251, 2189 (2014)
DOI: 10.1002/pssb.201400028
14. *"Pressure Sensor Systems for Wide Pressure Ranges Integrated by a Combined CMOS- and MEMS-Technology"*
W. Schreiber-Prillwitz, R. Job;
Journal of Integrated Circuits and Systems 8(2), 83 (2013)
DOI: 10.29292/jics.v8i2.377
(invited)
15. *"Activation and Dissociation of Proton-Induced Donor Profiles in Silicon"*
J. Laven, R. Job, H. -J. Schulze, F.-J. Niedernostheide, W. Schustereder, L. Frey;
ECS Journal of Solid State Science and Technology 2(9), P389 (2013)
DOI: 10.1149/2.028309jss
16. *"Defect Engineering for Modern Power Devices"*
R. Job, J. G. Laven, F.-J. Niedernostheide, H.-J. Schulze, H. Schulze, W. Schustereder;
phys. stat. solidi (a), 209, 1940 (2012)
DOI: 10.1002/pssa.201200151
(invited)
17. *"Conversion Efficiency of Radiation Damage Profiles into Hydrogen-Related Donor Profiles"*
J. G. Laven, R. Job, W. Schustereder, H.-J. Schulze, F.-J. Niedernostheide, H. Schulze, L. Frey;
Diffusion and Defect Data Part B (Solid State Phenomena) 178-179, 375 (2011)
DOI: 10.4028/www.scientific.net/SSP.178-179.375
18. *"Thickness Dependence of Resistivity and Optical Reflectance of ITO Films"*
M. Z. Gao, R. Job, D. S. Xue, W. R. Fahner;
Chin. Phys. Lett. 25, 1380 (2008)
DOI: 10.1088/0256-307X/25/4/059

19. *"Investigation of the Emitter Band Gap Widening of Heterojunction Solar Cells by use of Hydrogenated Amorphous Carbon Silicon Alloys"*
T. Mueller, W. Dungen, Y. Ma, R. Job, M. Scherff, W. R. Fahrner;
J. Appl. Phys. 102, 074505 (2007)
DOI: 10.1063/1.2785012
20. *"Blistering of Implanted Crystalline Silicon by Plasma Hydrogenation Investigated by Raman Scattering Spectroscopy"*
W. Dungen, R. Job, T. Mueller, Y. Ma, W. R. Fahrner, L. O. Keller, J. T. Horstmann, H. Fiedler;
J. Appl. Phys. 100, 124906 (2006)
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21. *"Hydrogen-Plasma-Induced Thermal Donors in High Resistivity N-Type Magnetic Czochralski-Grown Silicon"*
Y. L. Huang, E. Simoen, C. Claeys, J. M. Rafi, P. Clauws, R. Job, W. R. Fahrner;
Appl. Phys. Lett. 89, 031911 (2006)
DOI: 10.1063/1.2227076
22. *"Thermal Evolution of Hydrogen related Defects in Hydrogen Implanted Czochralski Silicon Investigated by Raman Spectroscopy and Atomic Force Microscopy"*
W. Dungen, R. Job, Y. Ma, Y. L. Huang, T. Mueller, W. R. Fahrner, L. O. Keller, J. T. Horstmann, H. Fiedler;
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23. *"Hydride Formation on the Platelet Inner Surface of Plasma-Hydrogenated Crystalline Silicon Investigated with Raman Spectroscopy"*
Y. Ma, Y. L. Huang, W. Dungen, R. Job, W. R. Fahrner;
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24. *"Silicon Pyramidal Texture Formed in Pure Hydrogen Plasma Exposure"*
Y. L. Huang, Y. Ma, R. Job, M. Scherff, W. R. Fahrner, H. G. Shi, D. S. Xue, M. L. David;
J. Electrochem. Soc. 152, C600 (2005)
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25. *"The Lower Boundary of the Hydrogen Concentration Required for Enhancing Oxygen Diffusion and Thermal Donor Formation in Czochralski Silicon"*
Y. L. Huang, Y. Ma, R. Job, W. R. Fahrner, E. Simoen, C. Claeys;
J. Appl. Phys. 98, 033511 (2005)
DOI: 10.1063/1.1999035
26. *"Trapping of Hydrogen in Argon-Implanted Crystalline Silicon"*
Y. Ma, R. Job, W. Dungen, Y. L. Huang, W. R. Fahrner, M.-F. Beaufort, S. Rousselet, J. T. Horstmann;
Appl. Phys. Lett. 86, 252109 (2005)
DOI: 10.1063/1.1953871
27. *"Suppression of Hydrogen Diffusion at the Hydrogen-Induced Platelets in P-Type Czochralski Silicon"*
Y. L. Huang, Y. Ma, R. Job, W. R. Fahrner;
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28. *"Dissociation, Transformation, and Recombination of Si-H Bonds in Hydrogenated Crystalline Silicon Determined by In Situ Micro-Raman Spectroscopy"*
Y. Ma, Y. L. Huang, R. Job, W. R. Fahrner;
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29. *"Impact of Direct Plasma Hydrogenation on Thermal Donor Formation in N-Type CZ Silicon"*
J. M. Rafi, E. Simoen, C. Claeys, Y. L. Huang, A. G. Ulyashin, R. Job, J. Versluys,
P. Clauws, M. Lozano, F. Campabadal;
J. Electrochem. Soc. 152, G16 (2005)
DOI: 10.1149/1.1824039
30. *"Substrate Dependence of Properties of Sputtered ITO Films"*
M. Z. Gao, H. G. Shi, R. Job, F. S. Li, W. R. Fahrner;
Chin. Phys. Lett. 22, 1228 (2005)
DOI: 10.1088/0256-307X/22/5/057
31. *" μ -Raman Investigations on Hydrogen Gettering in Hydrogen Implanted and Hydrogen Plasma Treated Czochralski Silicon"*
W. Dungen, R. Job, Y. Ma, Y. L. Huang, W. R. Fahrner, L. O. Keller, J. T. Horstmann;
Diffusion & Defect Data Pt. B: Solid State Phenomena 108-109, 91 (2005)
DOI: 10.4028/www.scientific.net/SSP.108-109.91
32. *"Evolution of Hydrogen Related Defects in Plasma Hydrogenated Crystalline Silicon under Thermal and Laser Annealing"*
Y. Ma, Y. L. Huang, R. Job, W. Dungen, W. R. Fahrner;
Diffusion & Defect Data Pt. B: Solid State Phenomena 108-109, 211 (2005)
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33. *"DLTS Study on Deep Levels Formed in Plasma Hydrogenated and Subsequently Annealed Silicon"*
Y. L. Huang, E. Simoen, C. Claeys, R. Job, Y. Ma, W. Dungen, W. R. Fahrner,
J. Versluys, P. Clauws;
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34. *"Electron Irradiation Effect on Thermal Donors in CZ-Si"*
K. Takakura, H. Ohyama, H. Murakawa, T. Yoshida, J. M. Rafi, R. Job, A. Ulyashin,
E. Simoen, C. Claeys;
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35. *"Hydrogen Diffusion at Moderate Temperatures in P-Type Czochralski Silicon"*
Y. L. Huang, Y. Ma, R. Job, A. G. Ulyashin;
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36. *"The Microstructure of the Fibrous Layer of Terebratulide Brachiopod Shell Calcite"*
W. W. Schmahl, E. Griesshaber, R. Neuser, A. Lenze, R. Job, U. Brand;
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Y. Ma, R. Job, Y.L. Huang, W. R. Fahrner, M.-F. Beaufort, J.-F. Barbot;
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38. *"Dependence of Hydrogen Diffusion on the Electric Field in P-Type Silicon"*
Y. L. Huang, B. Wdowiak, R. Job, Y. Ma, W. R. Fahrner;
J. Electrochem. Soc. 151, G564 (2004)
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39. *"Comparison of Electron Irradiation Effect on Thermal Donors in Cz and Oxygen Doped FZ Silicon"*
K. Takakura, H. Ohyama, T. Yoshida, H. Murakawa, J. M. Rafi, R. Job, A. G. Ulyashin,
E. Simoen, C. Claeys;
Physica B 340-342, 1022 (2003)
DOI: 10.1016/j.physb.2003.09.115
40. *"Magnetic Properties of Pure Fe-Al₂O₃ nanocomposites"*
D. S. Xue, Y. L. Huang, Y. Ma, P. H. Zhou, Z. P. Niu, F. S. Li, R. Job, W. R. Fahrner;
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41. *"Modelling of a Pin-Fin Heat Converter with Fluid Cooling for Power Semiconductor Modules"*
I. Khorunzhii, H. Gabor, R. Job, W. R. Fahrner, H. Baumann;
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DOI: 10.1002/er.918
42. *"Characterisation of Oxygen and Oxygen-related Defects in High- and Lowly-Doped Silicon"*
E. Simoen, C. Claeys, R. Loo, O. De Gryse, P. Clauws, R. Job, A. G. Ulyashin,
W. R. Fahrner;
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DOI: 10.1016/S0921-5107(02)00706-7
43. *"Deep Levels in Oxygenated N-Type High-Resistivity Float-Zone Silicon Before and After a Low Temperature Hydrogenation Step"*
E. Simoen, C. Claeys, R. Job, A. G. Ulyashin, W. R. Fahrner, G. Tonelli, O. De Gryse, P.
Clauws;
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44. *"Depth Resolved Defect Analysis by Micro-Raman Investigations on Plasma Hydrogenated Czochralski Silicon Wafers"*
R. Job, Y. Ma, Y. L. Huang, A. G. Ulyashin, W. R. Fahrner, M.-F. Beaufort,
J.-F. Barbot;
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45. *"Effect of Electron Irradiation on Thermal Donors in Oxygen-Doped High-Resistive FZ Si"*
K. Takakura, H. Ohyama, T. Yoshida, H. Murakawa, J. M. Rafi, R. Job, A. Ulyashin,
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46. *" μ -Raman Investigations of Plasma Hydrogenated Silicon"*
R. Job, A. G. Ulyashin, W. R. Fahrner, M.-F. Beaufort, J.-F. Barbot;
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48. *"Computer Simulations of a Pin-Fin Heat Sink with Fluid Cooling for Semiconductor Modules"*
I. A. Khorunzhii, H. Gabor, R. Job, W. R. Fahrner, H. Baumann;
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49. *"Substrate Orientation, Doping and Plasma Frequency Dependencies of Structural Defect Formation in Hydrogen Plasma Treated Silicon"*
A. G. Ulyashin, R. Job, W. R. Fahrner, O. Richard, H. Bender, C. Claeys, E. Simoen, D. Grambole;
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50. *"Comparison of Multicrystalline Silicon Surfaces After Wet Chemical Etching and Hydrogen Plasma Treatment: Application to Heterojunction Solar Cells"*
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51. *"Steady-State Thermal Conductivity Measurements of Superhard Materials"*
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52. *"Hydrogen Plasma-Enhanced Thermal Donor Formation in N-Type Oxygen-Doped High-Resistivity Float-Zone Silicon"*
E. Simoen, C. Claeys, R. Job, A. G. Ulyashin, W. R. Fahrner, O. De Gryse, P. Clauws;
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53. *"Thermochemical Beveling of CVD Diamond Films Intended for Precision Cutting and Measurement Applications"*
J. A. Weima, R. Job, W. R. Fahrner;
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54. *"Impurities and Defects in Multicrystalline Silicon for Solar Cells: Low-Temperature Photoluminescence Investigations"*
A. V. Mudryi, A. I. Patuk, I. A. Shakin, A. G. Ulyashin, R. Job, W. R. Fahrner, A. Fedotov, A. Mazanik, N. Drozdov;
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55. *"The Influence of the Amorphous Silicon Deposition Temperature on the Efficiency of the ITO/a-Si:H/c-Si Heterojunction (HJ) Solar Cells and Properties of Interfaces"*
A. G. Ulyashin, R. Job, M. Scherff, M. Gao, W. R. Fahrner, D. Lyebvedyev, N. Roos,
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56. *"Positron Beam and Raman Analysis of Hydrogen Plasma Treated and Annealed Cz-Si"*
H. Schut, A. van Veen, S. W. H. Eijt, R. Job, A. G. Ulyashin, W. R. Fahrner;
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57. *"Formation of Luminescent Structures on Cz-Silicon by Hydrogen Plasma Treatments and Oxydation"*
R. Job, A. G. Ulyashin, W. R. Fahrner;
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58. *"Hydrogen Enhanced Thermal Donor Formation in Oxygen Enriched High-Resistive Float-Zone Silicon"*
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Diffusion & Defect Data Pt. B: Solid State Phenomena 82-84, 315 (2002)
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62. *"Low-Temperature Photoluminescence Characterization of Defects Formation in Hydrogen and Helium Implanted Silicon at Post-Implantation Annealing"*
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63. *"Sensors and Smart Electronics in Harsh Environment Applications"*
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64. *"Surface Analysis of Ultra-Precisely Polished Chemical Vapor Deposited Diamond Films Using Spectroscopic and Microscopic Techniques "*
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71. *"Investigation of Non-Diamond Carbon Phases and Optical Centers in Thermochemically Polished Polycrystalline CVD Diamond Films"*
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72. *"Low Energy Carbonaceous and Graphite Phases on the Surface of Thermochemically Polished Chemical Vapor Deposited Diamond Films"*
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74. *"The Hydrogen Gettering at Post-Implantation Hydrogen Plasma Treatments of Helium and Hydrogen Implanted Czochralski Silicon"*
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99. *"The Comparison of Oxygen and Hydrogen Gettering at High-Temperature Post-
Implantation Annealing of Hydrogen and Helium Implanted Czochralski Silicon"*
R. Job, W. R. Fahrner, A. G. Ulyashin, A. I. Ivanov, L. Palmetshofer;
in: "Defect and Impurity Engineered Semiconductors and Devices", Editors: S. Ashok,
J. Chevallier, W. Goetz, B. L. Sopori, MRS Symposium Proceedings Series, Vol. 510
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100. *"A Two-Step Low-Temperature Process for a P-N Junction Formation due to Hydrogen
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R. Job, W. R. Fahrner, N. M. Kazuchits, A. G. Ulyashin;
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R.C. Bowman, R.G. Leisure, MRS Symposium Proceedings Series, Vol. 513 (the 1998
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('Outstanding Poster Award')
101. *"Diamond Radiation Sensors for Medical Applications"*
F. Blum, A. Denisenko, R. Job, D. Borchert, W. R. Fahrner;
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7th - 10th, 1998, Pretoria, South Africa, p. 163 (1998)
102. *"LEDs on Diamond"*
W. R. Fahrner, A. M. Zaitsev, A. A. Melnikov, A. V. Denisenko, R. Job, S. T. Lee;
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103. *"Characterization of Indium-Tin-Oxide Films by Means of Ion-Implanted Nuclear
Probes"*
H. Metzner, S. Habenicht, T. Hahn, M. Uhrmacher, K.-P. Lieb, D. Borchert, R. Job,
W. R. Fahrner;
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104. *"Oxygen Gettering on Buried Layers at Post-Implantation Annealing of Hydrogen Implanted Czochralski Silicon"*
R. Job, W. R. Fahrner, A. G. Ulyashin, Yu. A. Bumay, A. I. Ivanov, L. Palmetshofer;
Proceedings "GADEST '97, 7th International Autumn Meeting", 5. - 10.10.1997, Spa, Belgien, Trans Tech Publications Ltd., Zürich, Switzerland (1997)
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105. *"Low-Temperature Doping of P-Type Czochralski Silicon due to Hydrogen Plasma Enhanced Thermal Donor Formation"*
A. G. Ulyashin, Yu. A. Bumay, R. Job, G. Grabosch, D. Borchert, W. R. Fahrner, A. Yu. Diduk;
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106. *"The 'Micro-Cooling-Systems' Joint Research Project"*
W. R. Fahrner, R. Job, M. Werner;
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('Best Poster Award: 2nd Prize')
107. *"Optical Characterization of Electrical, Thermal, and Mechanical Properties of Wide Band Gap Superhard Semiconductors"*
A. M. Zaitsev, A. G. Zakharov, A. V. Denisenko, A. A. Melnikov, V. S. Varichenko, R. Job, W. R. Fahrner;
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108. *"Metallization of Diamond for Micro-System Applications"*
R. Job, M. Werner, A. Melnikov, W. R. Fahrner;
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109. *"Formation of Deep p-n-Junctions in p-Type Czochralski Silicon by Low Temperature Hydrogen Plasma Treatment and Its Characterization by Spreading Resistance and Capacitance-Voltage Measurements"*
A. G. Ulyashin, R. Job, Y. A. Bumay, G. Grabosch, D. Borchert, W. R. Fahrner;
Proceedings "Micro Materials, International Conference and Exhibition (Micro Mat. '97)", 16.- 18.4.1997, Berlin, Germany, Ed.: B. Michel, T. Winkler, DDP Goldenbogen Verlag, Dresden, Germany, p. 1180 (1997)
110. *"Oxygen Gettering and Thermal Donor Formation at Post-Implantation Annealing of Hydrogen Implanted Czochralski Silicon"*
A. G. Ulyashin, Y. A. Bumay, W. R. Fahrner, A. I. Ivanov, R. Job, L. Palmetshofer;
in: "Defects and Diffusion in Silicon Processing", Editors: S. Coffa, T. de la Rubia, C. Rafferty, P. Stolk, MRS Symposium Proceedings Series, Vol. 469 (the 1997 MRS Spring Meeting, San Francisco, USA), p. 95 (1997)

111. *"The Conversion of Czochralski Silicon from P-Type to N-Type by Hydrogen Plasma Enhanced Thermal Donor Formation"*
R. Job, D. Borchert, Y. A. Bumay, W. R. Fahrner, G. Grabosch, I. A. Khorunzhii, A. G. Ulyashin;
in: "Defects and Diffusion in Silicon Processing", Editors: S. Coffa, T. de la Rubia, C. Rafferty, P. Stolk, MRS Symposium Proceedings Series, Vol. 469 (the 1997 MRS Spring Meeting, San Francisco, USA), p. 101 (1997)
112. *"The Impact of the ¹³C Isotope Content and the Grain Size on the Thermal Conductivity of Polycrystalline Diamond Films"*
J. Bonhaus, A. V. Denisenko, W. R. Fahrner, R. Job, A. Podoba, M. Werner, A. M. Zaitsev;
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113. *"Radiation Response of P-I-P Diodes on Diamond Substrates of Various Types"*
A. Denisenko, U. Strähle, W. R. Fahrner, H. Henschel, R. Job;
Proceedings "IEEE Nuclear and Space Radiation Effects Conference (IEEE NSREC)", 15. - 19.7.1996, Stouffer Renaissance Esmeralda Resort, Indian Wells, CA, USA
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114. *"High Sensitivity Thermal Sensors on Insulating Diamond"*
R. Job, A. V. Denisenko, A. M. Zaitsev, A. A. Melnikov, M. Werner, W. R. Fahrner;
Proceedings "International Conference on Metallurgical Coatings and Thin Films ICMCTF '96", 22. - 26.4.1996, San Diego, CA, USA
(see also: Thin Solid Films 290-291, 165 (1996))
115. *"Luminescence Characterization and Application of Diamond"*
A. M. Zaitsev, A. A. Melnikov, A. V. Denisenko, V. S. Varichenko, R. Job, W. R. Fahrner;
in: "Diamond for Electronic Applications", Editors: A. Collins, T. Humphreys, K. Das, P. E. Pehrson, MRS Symposium Proceedings Series, Vol. 416 (the 1995 MRS Fall Meeting, Boston, USA), p. 113 (1996)
116. *"Temperature Sensor on Boron Ion Implanted Diamond"*
R. Job, M. Werner, A. V. Denisenko, A. M. Zaitsev, A. A. Melnikov, W. R. Fahrner;
in: "Diamond for Electronic Applications", Editors: A. Collins, T. Humphreys, K. Das, P. E. Pehrson, MRS Symposium Proceedings Series, Vol. 416 (the 1995 MRS Fall Meeting, Boston, USA), p. 246 (1996)
117. *"How to Fabricate Low-Resistance Metal-Diamond Contacts"*
M. Werner, R. Job, A. Denisenko, A. Zaitsev, W. R. Fahrner, C. Johnston, P. R. Chalker, I. M. Buckley-Golder;
Proceedings "Diamond Films '95. The 6th European Conference on Diamond, Diamond-like and Related Materials", 10. - 15.09.1995, Barcelona, Spain,
(see also: Diamond and Related Mater. 5, 723 (1996))
118. *"Electrical Properties of Lithium Implanted Layers on Synthetic Diamond"*
R. Job, M. Werner, A. Denisenko, A. Zaitsev, W. R. Fahrner;
Proceedings "Diamond Films '95. The 6th European Conference on Diamond, Diamond-like and Related Materials", 10. - 15.09.1995, Barcelona, Spain,
(see also: Diamond and Related Mater. 5, 757 (1996))

119. *"Low Temperature Processing of ITO Films for the Application in a-Si/c-Si Heterojunction Solar Cells"*
D. Borchert, R. Job, G. Grabosch, C. Wolffersdorf, W. R. Fahrner;
Proceedings "13th European Photovoltaic Solar Energy Conference and Exhibition", 23. - 27.10.1995, Nizza, France, Vol. 1, p. 249 (1995)
120. *"Mößbauerspektroskopie und kernmagnetische Resonanz-Untersuchungen an HTSL"*
Th. Sinnemann, R. Job, R. Michalak, M. Mittag, R. Wernhardt, M. Rosenberg, H. Lütgemeier;
in: "Supraleitung und Tieftemperaturtechnik", Editor: VDI-Technologie-Zentrum, Physikalische Technologien, VDI-Verlag, Düsseldorf (1993)
121. *"Magnetische Phasendiagramme und Flußverankerungsmechanismen in Bi- und Tl-haltigen HTSL"*
R. Job, M. Mittag, R. Wernhardt, M. Rosenberg, B. Himmerich, H. Sabrowsky;
in: "Supraleitung und Tieftemperaturtechnik", Editor: VDI-Technologie-Zentrum, Physikalische Technologien, VDI-Verlag, Düsseldorf (1993)
122. *"Some comments on the magnetic phase diagrams of Bi- and Tl-containing high-T_c superconductors with critical temperatures above 100 K"*
R. Job;
Proceedings "18th Workshop on High Temperature Superconductivity", Editors: T. S. Hahn, S. Y. Lee, Z. G. Khim, Y. J. Park and K. Nahm; Yongpyung, Korea, Aug. 17 - 19, 1993, published by 'Korea Institute of Science and Technology', Cheongryang P.O. Box 131, Seoul, 130-650, Korea (1993)
(invited)
123. *"Flußverankerung und elektrischer Widerstand in (Bi,Pb)-2223 und Tl-2223 Hochtemperatursupraleitern"*
M. Mittag, R. Job, R. Ivens, R. Wernhardt, M. Rosenberg, B. Himmerich, H. Sabrowsky;
in: "Supraleitung und Tieftemperaturtechnik", Editor: VDI-Technologie-Zentrum, Physikalische Technologien, VDI-Verlag, Düsseldorf, Germany (1991)
124. *"Präparation und magnetische Charakterisierung von Bi- und Tl-haltigen HTSL mit kritischen Temperaturen über 100 K"*
R. Job, Th. Sinnemann, H. Bach, M. Rosenberg, B. Himmerich, H. Sabrowsky;
in: "Supraleitung und Tieftemperaturtechnik", Editor: VDI-Technologie-Zentrum, Physikalische Technologien, VDI-Verlag, Düsseldorf, Germany (1991)
125. *"Synthesis and Superconducting Properties of Bi-Pb-Sr-Ca-Cu-O Ceramics"*
R. Job, M. Rosenberg, H. Bach;
in: "High-Temperature Superconductors. Materials Aspects", Proceedings "ICMC'90 Topical Conference on Materials Aspects of High-Temperature Superconductors", Editors: H. C. Freyhardt, R. Flükiger, M. Peuckert; DGM Informationsgesellschaft mbH - Verlag, Oberursel, Germany (1991)
126. *"Preparation and Magnetic Studies of Single Crystalline (Bi,Pb)SrCaCuO Superconductors"*
R. Job, M. Rosenberg, H. Bach;
in: "Physics and Materials Science of High Temperature Superconductors", Editors: R. Kossowsky, S. Methfessel, D. Wohlleben; NATO A.S.I. Series E, Kluwer Academic Publishers (1989)

48 invited talk, seminars, keynote speeches:

1. *"Dissipative Structures and Ecosystems "*
4.9.2024, Universidad Pontificia Bolivariana, Medellín, Kolumbien
(**'Keynote'**)
2. *"Global Chances"*
27.10.2022, Universidad de Santiago de Chile, Santiago de Chile, Chile
(**'Keynote'**)
3. *"What is our Problem with Energy and Resources"*
20.9.2022, Universidad del País Vasco, San Sebastian, Spain
(**'Keynote'**)
4. *"Teaching Electrochemical Energy Storage to Engineers "*
CHISA 2020 Prag, De Gryuter – CHISA EFCE webinar, 26.11.2020
(**'Webinar'**)
5. *"Climate Chance and Resources, Part I – Part III"*
4.12.2019, Universidade Federal do Rio Grande do Norte, Joao Camara Campus, Natal, Brazil
(**'Seminar'**)
6. *"What is our problem with energy and resources"*
5.12.2019, Universidade Federal do Rio Grande do Norte, Main Campus, Natal, Brazil
(**'Seminar'**)
7. *"What is our problem with energy and resources?"*
7.11.2018, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil,
host: Prof. Dr. Homero Dewes
(**'Seminar'**)
8. *"What is our problem with energy and resources?"*
13.9.2017, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil,
host: Prof. Dr. Homero Dewes
(**'Seminar'**)
9. *"What seems to be the trouble with energy and resources"*
3.3.2017, Universidade Federal do Rio Grande do Norte, Natal, Brazil,
host: Prof. Dr. Marcio Kreutz
(**'Seminar'**)
10. *"Teaching Informatics"*
6.3.2017, Instituto Federal Rio Grande do Norte, Natal, Brazil,
together with Prof. Dr. Kathrin Ungru, FH Münster
(**'Workshop'**)
11. *"Teaching Electrochemical Energy Storage for Undergraduate Electrical Engineers"*
7.3.2017, Instituto Federal Rio Grande do Norte, Natal, Brazil
(**'Workshop'**)
12. *"Development Process for MEMS Pressure Sensors with CMOS Read-Out Circuitry"*
'29th Symposium on Integrated Circuits and Systems Design (SBCCI 2016)', Aug. 29th –
Sept. 3rd, 2016, Belo Horizonte, Brazil
(**'Tutorial'**)

13. *"Do we have an Energy Crisis? – A brief discussion on energy and resources"*
24.8.2016, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil,
host: Prof. Dr. Homero Dewes
(**'Seminar'**)
14. *"Integrated Pressure Sensors – Design and Dimensioning"*
23.8.2016, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil,
host: Prof. Dr. Gilson Wirth
(**'Tutorial'**)
15. *"Materials, Resources and the Impact on our Societies and Future Technology"*
8.9.2015, Instituto Federal do Rio Grande do Norte, Natal, Brazil,
host: Solange Thomaz, MSc.
(**'Tutorial'**)
16. *"Dependency on Materials and Resources - How can we reach a sustainable society?"*
29.7.2015, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil,
host: Prof. Dr. Homero Dewes
(**'Seminar'**)
17. *"Elektrisch aktive Defektkomplexe in protonenimplantierten und getemperten Float-Zone-Siliziumwafern"*
19.3.2014, University of Konstanz, Department of Physics, Konstanz, Germany,
host: Prof. Dr. G. Hahn
18. *"Optimization of Integrated Pressure Sensor Systems for Widely Spread Applications"*
14.8.2013, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil,
host: Prof. Dr. Gilson Wirth
(**'Tutorial'**)
19. *"Materials and Environment"*
14.8.2013, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil,
host: Prof. Dr. Homero Dewes
(**'Seminar'**)
20. *"The Thermal Budget of Hydrogen-related Donor Profiles: Diffusion-limited Activation and Thermal Dissociation"*
'High Purity Silicon 12' (Pacific Rim Meeting on Electrochemical and Solid-State Science, PRIME 2012, joint international meeting: the 222nd Meeting of the Electrochemical Society and 2012 Fall Meeting of the Electrochemical Society of Japan), Oct. 7th – 12th, 2012, Honolulu, USA
21. *"Resources and Environment"*
6.9.2012, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil,
host: Prof. Dr. Homero Dewes
(**'Seminar'**)
22. *"Defect Engineering and Analysis of Light-Ion Implanted Float-Zone Silicon"*
4.9.2012, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil,
host: Prof. Dr. Gilson Wirth
(**'Tutorial'**)
23. *"Defect Engineering for Modern Power Devices"*
17.5.2012, Symposium A: Advanced Silicon Materials Research for Electronic and Photovoltaic Applications III, E-MRS Spring Meeting, May 14th – 18th, 2012, Strasbourg, France

24. *"Analysis of Electrically Active Defects in Light Ion Implanted Silicon by Simple Spreading Resistance Measurements"*
17.12.2010, Université Paul Cézanne Aix-Marseille III, Marseille, France
25. *"Recent Studies on Electrically Active Defects in Light Ion Implanted Silicon"*
20.5.2010, Centre National de la Recherche Scientifique (CNRS), Conditions Extrêmes et Matériaux: Haute Température et Irradiation (CEMHTI UPR3079), Orléans, France
26. *"Distance Learning at the University Level – The University of Hagen Guided Tour"*
21.5.2010, Université d'Orléans, France
27. *"Detection of Vacancy Distributions by Decoration with Hydrogen"*
'Analytical Techniques for Semiconductor Materials and Process Characterization VI (ALTEC)' (the 216th Meeting of the Electrochemical Society), Oct. 4th – 9th, 2009, Vienna, Austria
28. *"Dotierung von FZ-Silizium durch Implantation mit leichten Ionen und Wasserstoff-plasmabehandlungen"*
26.6.2009, University of Bochum (Ruhr-Universität), Faculty of Physics and Astronomy, RUBION, 'Seminar zu Ionenstrahlen und Radionukliden in Wissenschaft und Technik', host: PD Dr. J. Meijer
29. *"Demands and Challenges for a Sustainable Energy Supply Concept"*
'1st Yaounde International College on Novel Materials and Technologies, and their Impact on Energy, Environment and Sustainable Development', July 7th – 11th, 2008, Yaounde, Cameroun
(**'Tutorial'**)
30. *"From Smart-Cut to Soft-Cut Processes – Mechanisms of Silicon Layer Exfoliation studied by Micro-Raman Spectroscopy"*
12.05.2006, Centre National de la Recherche Scientifique (CNRS), Centre d'Etudes et de Recherches par Irradiation (C.E.R.I.), Orléans, France
31. *"Defect Analysis of Hydrogen Implanted and Plasma Hydrogenated Czochralski Silicon Wafers by Raman Spectroscopy"*
11.05.2006, Centre National de la Recherche Scientifique (CNRS), Centre de Spectrométrie Nucléaire et de Spectrométrie de Masse (C.S.N.S.M.), Orsay, France
32. *"Micro-Raman Analysis of Ion Implanted and Plasma Hydrogenated Czochralski Silicon Wafers – from Smart-Cut- to Soft-Processes"*
14.3.2006, University of Orléans, Laboratoire d'Électronique, Signaux, Images (L.E.S.I.), Chartres, France,
host: Prof. Dr. L. Allam, Prof. Dr. E. Ntsoenzok
33. *"Micro-Raman Analysis of Ion Implanted and Plasma Hydrogenated Czochralski Silicon Wafers"*
'XIIIth International Workshop on the Physics of Semiconductor Devices (IWPSD '2005)', Dec. 13th – 17th, 2005, Delhi, India
34. *"Vom "Smart-Cut®" zum "Soft-Cut" – Analyse von auf Wasserstoff basierenden Defekten in ionenimplantierten und plasmabehandelten Siliziumwafern"*
16.11.2005, University of Bochum (Ruhr-Universität), Faculty of Physics and Astronomy, series of lectures: 'Spektroskopie der kondensierten Materie'

35. *"Hydrogen Related Defects in Czochralski Silicon Close to the Wafer Surface: Defect Analysis and Technological Prospects"*
'20th Symposium on Microelectronics Technology and Devices (SBMicro 2005)', Sept. 4th – 7th, 2005, Florianopolis, Brazil
(**'Tutorial'**)
36. *" μ -Raman Analysis of Hydrogen Related Defects in Czochralski Silicon"*
'20th Symposium on Microelectronics Technology and Devices (SBMicro 2005)', Sept. 4th – 7th, 2005, Florianopolis, Brazil
37. *"Structuring of Silicon Surface and Subsurface Layers by Plasma Hydrogenation - Defect Analysis and Technological Prospects"*
'XIIth International Workshop on the Physics of Semiconductor Devices (IWPSD '2003)', Dec. 16th – 20th, 2003, Chennai/Madras, India
38. *"Low Temperature Doping of Silicon by Hydrogen Plasma Treatments"*
'High Purity Silicon VII' (the 202nd Meeting of the Electrochemical Society), Oct. 20th – 25th, 2002, Salt Lake City, USA
39. *"High Voltage Diodes Prepared by Hydrogen Enhanced Thermal Donor Formation"*
21.10.2002, University of Utah, Department of Physics, Salt Lake City, UT, USA,
host: Prof. Dr. P. C. Taylor
40. *"A Low Temperature Technology on the Base of Hydrogen Enhanced Thermal Donor Formation for Future High Voltage Applications"*
'XIth International Workshop on the Physics of Semiconductor Devices (IWPSD '2001)', Dec. 10th – 15th, 2001, Delhi, India
41. *"Platelet Formation in Cz Si after Plasma Hydrogenation and Annealing"*
16.11.2001, Wacker Siltronic AG, Burghausen, Germany,
host: Dr. W. von Ammon
42. *"Modification of Bulk and Surface Properties of Czochralski Silicon by Hydrogen Plasma Treatments at Moderate Temperatures"*
22.2.2001, Kyushu National Industrial Research Institute (KNIRI), Tosu, Japan,
host: Dr. E. Abe
43. *"Bulk and Surface Properties of Cz-Silicon after Hydrogen Plasma Treatments"*
17.10.2000, PennState University, State College, PA, USA,
host: Prof. Dr. S. Ashok, Prof. Dr. P. Lenahan
44. *"A Concise Study on Luminescence of Dealuminated Faujasite and the Formation of Nanoclusters in the Zeolite Host Structure"*
'25th Annual Conference of the IEEE Industrial Electronics Society (IECON '99)', 29.11. – 3.12.1999, San Jose, CA, USA
45. *"Active Defect-Engineering by a Controlled Thermal Donor Formation in Cz-Silicon"*
24.7.1998, Kyushu National Industrial Research Institute (KNIRI), Tosu, Japan,
host: Dr. A. Yoshida
46. *"Aktives Defect-Engineering durch gezielte Erzeugung thermischer Donatoren in Cz-Silizium mit plasmatechnologischen Verfahren"*
20.2.1998, University of Wuppertal (Bergische Universität Wuppertal), Department E: Electrical Engineering, Information Technology, Media Technology,
host: Prof. Dr. J. Engemann

47. *"Wasserstoff in Silizium"*
4.7.1997, University of Bochum (Ruhr-Universität), Faculty of Physics and Astronomy,
host: Prof. Dr. J. Pelzl
48. *"Some Comments on the Magnetic Phase Diagrams of Bi- and Tl-containing High- T_c
Superconductors with Critical Temperatures above 100 K"*
'18th Workshop on High Temperature Superconductivity', Aug. 17th – 19th, 1993,
Yongpyung, Korea

9 books and book chapters:

1. *"Electrochemical Energy Storage – Physics and Chemistry of Batteries"*
R. Job;
Textbook, De Gruyter Verlag (2020)
ISBN 978-3-11-048437-3
2. *"Zeolithe und Nanocluster in Zeolithwirtsittern"*
R. Job;
in: "Nanotechnologie und Nanoprozesse – Einführung und Bewertung", 2nd edition,
Editor: W. R. Fahrner, Springer-Verlag, Berlin, Heidelberg, New York (2003),
p. 133-148
ISBN 3-540-44212-x
3. *"Zeolites and Nanoclusters in Zeolite Host Lattices"*
R. Job;
in: "Nanotechnology and Nanoelectronics – Materials, Devices, Measurement Techniques", Editor: W. R. Fahrner, Springer-Verlag, Berlin, Heidelberg, New York (2005),
p. 127-141
ISBN 3-540-22452-1
4. *"Defects in Plasma Hydrogenated Crystalline Silicon"*
Y. L. Huang, Y. Ma, W. R. Fahrner, R. Job;
in: "Recent Research Developments in Electrochemistry, Vol. 8", Transworld Research Network, Kerala, India (2005), p. 327-367
ISBN 81-7895-183-5
5. *"The Fabrication of P-N Junction Diodes based on Hydrogen Enhanced TD Formation in Czochralski Silicon"*
Y. L. Huang, Y. Ma, R. Job, W. R. Fahrner;
in: "The World of Electronic Packaging and System Integration", Editoren: B. Michel, R. Aschenbrenner, DDP Goldenbogen Verlag, Dresden, Germany (2004), p. 440-446
ISBN 3-932434-76-5
6. *"Properties of Plasma Hydrogenated Silicon"*
Y. Ma, Y. L. Huang, R. Job, W. R. Fahrner;
in: "The World of Electronic Packaging and System Integration", Editoren: B. Michel, R. Aschenbrenner, DDP Goldenbogen Verlag, Dresden, Germany (2004), p. 432-439
ISBN 3-932434-76-5
7. *"Zeolithe und Nanocluster in Zeolithwirtsittern"*
R. Job;
in: "Nanotechnologie und Nanoprozesse – Einführung und Bewertung", Editor:
W. R. Fahrner, Springer-Verlag, Berlin, Heidelberg, New York (2003), p. 133-148
ISBN 3-540-44212-x
8. *"Plasmaunterstützte Niedertemperaturprozesse für die Siliziumtechnologie / Prozessentwicklung und Defekt-Engineering"*
R. Job;
Bochumer Universitätsverlag (2002), Serie: Halbleiter-Materialforschung (Band 1),
ISBN 3-934453-87-6

9. *"Bonding on Diamond"*

R. Job, H. Gabor;

in: "Handbook of Diamond Technology", Editor: W.R. Fahrner, TTP Trans Tech Publications Ltd., Uetikon-Zürich, Schweiz (2000), p. 584-644

ISBN 0-87849-835-4

5 miscellaneous publications (habilitation treatise, PhD thesis, diploma thesis, etc.):

1. *"Positionspapier für Bachelorstudiengänge Elektrotechnik und Informationstechnik an HAWen"*
B. Faupel, R. Hönl, O. Jack, R. Job;
Position paper of the task force "Fachqualifikationsrahmen", Fachbereichstag Elektrotechnik und Informationstechnik e.V., FBTEI (2021)
2. *"Herstellung von 'Silicon-On-Insulator'-Schichten durch Ionenimplantation bei geringen Dosen in Kombination mit anschließenden Plasmabehandlungen"*
R. Job;
Final report of the research project "Soft-Cut" financed by the German Science Foundation (DFG), DFG-Project Nr. Jo/297-1-3 (2008)
3. *"Plasmaunterstützte Niedertemperaturprozesse für die Siliziumtechnologie / Prozessentwicklung und Defekt-Engineering"*
R. Job;
Habilitation Treatise, University of Hagen (FernUniversität), Department of Electrical Engineering and Information Technology (2002)
4. *"Präparation und magnetische Untersuchung des Vortex-Zustandes von Bi- und Tl-haltigen Hochtemperatursupraleitern mit kritischen Temperaturen über 100 K"*
R. Job;
PhD Thesis, University of Bochum (Ruhr-Universität), Faculty of Physics and Astronomy (1992)
5. *"Untersuchung von magnetischen Eigenschaften an $Ni_{80-x}Co_xB_{16}Si_4$ -Legierungen"*
R. Job;
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1. *"The Influence of Various Physical Parameters on the Removal Rate of Thermochemically Polished CVD Diamond Films"* (HL10.10)
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2. *"Non-Diamond Carbon Phases on the Surfaces of Transition Metal Enhanced Polished CVD Diamond Films"* (HL10.9)
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4. *"Optimierung des optischen Auswahlverfahrens von CVD-Diamanten für Sensoranwendungen"* (HL9.2)
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5. *"N-Dotierung des Diamanten mit Lithium: Versuche mit Ionenimplantation an verschiedenen Diamanten"* (HL9.5)
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6. *"Ätzzraten bei implantierten und getemperten Diamanten"* (HL12.4)
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7. *"Active Defect-Engineering by a Controlled Formation of Thermal Donors in Cz Silicon"* (HL33.8)
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8. *"Untersuchung der Temperaturabhängigkeit elektrischer Kennlinien von p-i-p Halbleiter-Teststrukturen auf Diamant"* (HL32.6)
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1. *"Electrochemical Energy Storage – Physics and Chemistry of Batteries"*
(2nd extended edition)
R. Job;
Textbook, De Gruyter, Berlin (projected release in 2025)
2. *"Solar Energy"*
R. Job;
Textbook, De Gruyter, Berlin (projected release in 2026)