

Celestino Padeste, PSI: List of Publications

A) Polymer Micro- and Nanografting

1. M. Dübner, V.J. Cadarso, T.N. Gevrek, A. Sanyal, N.D. Spencer, and C. Padeste, "Reversible Light-Switching of Enzymatic Activity on Orthogonally Functionalized Polymer Brushes", *ACS Appl. Mater. Interfaces* **9** (11), 2017, 9245–9249, doi: 10.1021/acsami.7b01154
2. Matthias Dübner, Maria-Eleni Naoum, Nicholas D. Spencer, Celestino Padeste, "From pH- to Light-Response: Post-Polymerization Modification of Polymer Brushes Grafted onto Microporous Polymeric Membranes", *ACS Omega*, **2**, 2017, 455-461. doi: 10.1021/acsomega.6b00394
3. K. Gajos, V.A. Guzenko, M. Dübner, J. Haberko, A. Budkowski, C. Padeste, Electron-beam lithographic grafting of functional polymer structures from fluoropolymer substrates, *Langmuir* **32**(41), 2016, 10641–10650. doi: 10.1021/acs.langmuir.6b02808.
4. G. Panzarasa, M. Dübner, V. Pifferi, G. Soliveri and C. Padeste, ON/OFF Switching of Silicon Wafer Electrochemistry by pH-Responsive Polymer Brushes. *J. Mater. Chem.C.*, **4**,26 (2016) 6287-6294. doi: 10.1039/c6tc01822j
5. M. Dübner, T.N. Gevrek, A. Sanyal, N.D. Spencer, and C. Padeste*, "Fabrication of Thiol–Ene "Clickable" Copolymer-Brush Nanostructures on Polymeric Substrates via Extreme Ultraviolet Interference Lithography", *ACS Applied Materials and Interfaces*, **7**, 2015, 11337–11345. doi: 10.1021/acsami.5b01804.
6. C. Padeste, S. Neuhaus, "Polymer Micro- and Nanografting," A Volume in Micro- and Nanotechnologies, Elsevier, 2015.
7. M. Dübner, N.D. Spencer, C. Padeste "Light-Responsive Polymer Surfaces via Postpolymerization Modification of Grafted Polymer-Brush Structures", *Langmuir*, **30** (2014) 14971–14981, doi:10.1021/la503388j.
8. S. Neuhaus, N.D. Spencer, C. Padeste, "Anisotropic Wetting of Microstructured Polymers as a Function of Surface Chemistry", *ACS Applied Materials and Interfaces* **4** (2012) 123-127.
9. S. Neuhaus, C. Padeste, N.D. Spencer, "Versatile Wettability Gradients Prepared by Chemical Modification of Polymer Brushes", *Langmuir* **27** (2011) 6855–6861.
10. S. Neuhaus, C. Padeste, N.D. Spencer, "Functionalization of Fluoropolymers and Polyolefins via Grafting of Polyelectrolyte Brushes from Atmospheric-Pressure Plasma Activated Surfaces", *Plasma Processes and Polymers* **8**, 6 (2011) 512-522.
11. S. Neuhaus, C. Padeste, H.H. Solak, N.D. Spencer, "Functionalization of fluoropolymer surfaces with nanopatterned polyelectrolyte brushes", *Polymer* **51** (2010) 4037-4043.
12. P. Farquet, C. Padeste, M. Börner, H. Ben youssef, S.A. Gürsel, G.G. Scherer H.H. Solak, V. Saile and A. Wokaun, „Microstructured proton conducting membranes by synchrotron radiation induced grafting,” *Journal of Membrane Science* **325** (2008) 658-664.
13. P. Farquet, C. Padeste, H.H. Solak, S.A. Gürsel, G.G. Scherer and A. Wokaun, "Extreme UV radiation grafting of glycidyl methacrylate nanostructures onto fluoropolymer foils by RAFT-mediated polymerization." *Macromolecules*, **41**, 17 (2008) 6309-6316.
14. P. Farquet, A. Kunze, C. Padeste, H.H. Solak, S. Alkan Gürsel, G.G. Scherer and A. Wokaun, "Influence of the solvent viscosity on surface graft-polymerization reactions", *Polymer*, **48** (2007) 4936-4942.
15. C. Padeste, P. Farquet, C. Potzner and H.H. Solak, „Nanostructured bio-functional polymer brushes", *J. Biomater. Sci. Polymer Edn.* **17** (2006) 1285-1300.
16. C. Padeste, P. Farquet and H.H. Solak „Surface relief polymer structures grafted onto polymer films“, *Microelectronic Engineering* **83** (2006) 1265-1268.
17. P. Farquet, C. Padeste, H.H. Solak, S. Alkan Gürsel, G.G. Scherer and A. Wokaun, „EUV lithographic radiation grafting of thermo-responsive hydrogel nanostructures“, *Nucl. Inst. Meth. Phys. Res. B* **236** (2005) 449-455.
18. S.A. Gürsel, C. Padeste, H.H. Solak, G.G. Scherer, „Microstructured Polymer Films by X-ray Lithographic Exposure and Grafting", *Nuclear Instruments and Methods in Physics Reserach B* **236** (2005) 449-455.

19. C. Padeste, H. H. Solak, H.P. Brack, M. Slaski, S. Alkan Gürsel and G.G. Scherer, „Patterned Grafting of Polymer Brushes onto Flexible Polymer Substrates”, *J. Vac. Sci. Technol. B*, **22**, 6 (2004) 3191-3195.
20. H.-P. Brack, C. Padeste, M. Slaski, S. Alkan, and H. H. Solak, „Preparation of Micro- and Nanopatterns of Polymer Chains Grafted onto Flexible Polymer Substrates”, *J. Am. Chem. Soc.*, **126**, 4 (2004) 1004-1005.

B) Biosensors and Bio-functional surfaces

21. S.A. Ranamukhaarachchi, C. Padeste, M. Dübner, U.O. Häfeli, B. Stoeber, V.J. Cadarso, Integrated hollow microneedle-optofluidic biosensor for therapeutic drug monitoring in sub-nanoliter volumes, *Sci. Rep.* 6 (2016) 29075. doi: 10.1038/srep29075
22. H. Özçelik, C. Padeste and V. Hasirci, “Systematically organized nanopillar arrays reveal differences in adhesion and alignment properties of BMSC and Saos-2 cells”. *Colloids and Surfaces B: Biointerfaces*, 119 (2014) 71-81. doi:10.1016/j.colsurfb.2014.03.019.
23. J. Waser, A. Salamon, M. Waser, C. Padeste, M. Kreuzer, U. Pieves, B. Müller and K. Peters, “Differentiation of human mesenchymal stem cells on plasma-treated polyetheretherketone”, *Journal of Materials Science: Materials in Medicine* **25**, 2 (2014) 515-525. doi: 10.1007/s10856-013-5072-5.
24. J. Althaus, P. Urwyler, C. Padeste, R. Heuberger, H. Deyhle, H. Schiff, J. Gobrecht, U. Pieves, D. Scharnweber, K. Peters and B. Müller, "Micro- and nanostructured polymer substrates for biomedical applications", *Proc. SPIE* **8339** (2012) 83390Q; doi: 10.1117/12.915235
25. J. Althaus, C. Padeste, J. Köser, U. Pieves, K. Peters and B. Müller, “Nanostructuring Polyetheretherketone for Medical Implants”, *European Journal of Nanomedicine*, **4**(1) (2012) 7-15.
26. C. Padeste, H. Özçelik, J. Ziegler, A. Schleunitz, M. Bednarzik, D. Yücel, V. Hasirci, “Replication of high aspect ratio pillar array structures in biocompatible polymers for tissue engineering applications”, *Microelectron. Engineering*, **88** (2011) 1836–1839.
27. V. Trabadelo, A. Retolaza, S. Merino, A. Cruz, P. Heredia, A. Foelske, H. Schiff, C. Padeste, Protein patterning by thermal nanoimprint lithography and NH₃-plasma functionalization of polystyrene, *J. Vac. Sci. Technol. B*, **27**,3 (2009) 1060-1062.
28. F.A. Zoller, C. Padeste, Y. Ekinci, H.H. Solak and A. Engel, “Nanostructured substrates for high density protein arrays”, *Microelectronic Engineering*, **85**, 6-5 (2008) 1370-1374.
29. C. Padeste, B. Steiger, A. Grubelnik and L. Tiefenauer, „Molecular Assembly of Redox-Conductive Ferrocene-Streptavidin Conjugates – Towards Bio-Electrochemical Devices”, *Biosensors and Bioelectronics* **20** (2004) 545-552.
30. C. Padeste, B. Steiger, A. Grubelnik and L. Tiefenauer, „Redox Labelled Avidin for Enzyme Sensor Architectures“, *Biosensors and Bioelectronics*, **19** (2003) 239-247.
31. B. Steiger, C. Padeste, A. Grubelnik and L. Tiefenauer, „Charge Transport Effects in Ferrocene-Streptavidin Multilayers Immobilised on Electrode Surfaces“, *Electrochimica Acta*, **48** (2003) 761-769.
32. H. Sorribas, C. Padeste and L. Tiefenauer, „Photolithographic Generation of Protein Micropatterns for Neuron Culture Applications“, *Biomaterials* **23**, 3 (2002) 893-900.
33. A. Grubelnik, C. Padeste and L. Tiefenauer, „Highly Sensitive Immunoassays for the Detection of β -Lactam Antibiotics“, *Food and Agricultural Immunology* **13** (2001) 161-169.
34. C. Padeste, A. Grubelnik and L. Tiefenauer, „Ferrocene-Avidin Conjugates for Bioelectrochemical Applications“, *Biosensors and Bioelectronics* **15**, 9-10 (2000) 431-438.
35. H. Sorribas, C. Padeste, T. Mezzacasa, L. Tiefenauer, L. Leder, D. Fitzli and P. Sonderegger, „Neurite outgrowth on microstructured surfaces functionalized by a neural adhesion protein“, *J. Mat. Sci, Mat. in Medicine*, **10** (1999) 787-791.
36. R. Ros, F. Schwesinger, C. Padeste, A. Plückthun, D. Anselmetti, H.-J. Güntherodt and L. Tiefenauer, „SPM for Functional Identification of Individual Biomolecules“, *Proc. SPIE* **3607** (1999) 84-89.

37. L. Tiefenauer and C. Padeste, „Micro- and Nanotechnology in Biosensor Research“, *Chimia* **53**, 3 (1999) 62-65.
38. C. Padeste, A. Grubelnik and L. Tiefenauer, „Amperometric Immunosensing using Microperoxidase MP-11 Antibody Conjugates“, *Anal. Chim. Acta.*, **374** (1998) 167-176.
39. V. von Reding, C. Padeste, J. Spichiger, A. Grubelnik and L. Tiefenauer, „Testsystem für amperometrische Immunosensoren“, *Bioworld* 4/98 (1998) 30-32.
40. S. Kossek, C. Padeste, L.X. Tiefenauer and H. Siegenthaler, „Localization of Individual Biomolecules on Sensor Surfaces“, *Biosensors & Bioelectronics*, **13**, 1 (1998) 31-43.
41. L.X. Tiefenauer, S. Kossek, C. Padeste and P. Thiébaud, „Towards Amperometric Immunosensor Devices“, *Biosensors & Bioelectronics* **12**, 3 (1997) 213-223.
42. C. Padeste, S. Kossek, H.W. Lehmann, C.R. Musil, J. Gobrecht and L. Tiefenauer, „Fabrication and Characterization of Nanostructured Gold Electrodes for Electrochemical Biosensors“ *J. Electrochemical Soc.*, **143**, 12 (1996) 3890-3895.
43. S. Kossek, C. Padeste and L. Tiefenauer, „Immobilization of Streptavidin for Immunosensors on Nanostructured Surfaces“, *J. Mol. Recogn.* **9** (1996) 485-487.
44. C. Padeste, S. Kossek and L. Tiefenauer, „Modular Amperometric Immunosensor Devices“ *Digest of Technical Papers of Transducers '95/Euroensors IX*, Stockholm, 1995, p.487-490.

C) Protein Crystallography

45. Nadia Opara, Isabelle Martiel, Stefan A. Arnold, Thomas Braun, Henning Stahlberg, Mikako Makita, Christian David and Celestino Padeste "Direct protein crystallization on ultrathin membranes for diffraction measurements at X-ray free electron lasers." *Journal of Applied Crystallography*, accepted for publication.
46. Stefan A. Arnold, Stefan Albiez, Nadia Opara, Mohamed Chami, Claudio Schmidli, Andrej Bieri, Celestino Padeste, Henning Stahlberg, and Thomas Braun, "Total Sample Conditioning and Preparation of Nanoliter Volumes for Electron Microscopy", *ACS Nano*, 10 (2016) 4981–4988. doi: 10.1021/acsnano.6b01328.
47. V. Panneels, W. Wu, C.J. Tsai, P. Nogly, J. Rheinberger, K. Jaeger, G. Cicchetti, C. Gati, L.M. Kick, L. Sala, G. Capitani, C. Milne, C. Padeste, B. Pedrini, X.D. Li, J. Standfuss, R. Abela, G. Schertler; "Time-resolved structural studies with serial crystallography: A new light on retinal proteins." *Structural Dynamics*, 2, 041718 (2015); doi: 10.1063/1.4922774.
48. B. Pedrini, C.J. Tsai, G. Capitani, C. Padeste, M.S. Hunter, N.A. Zatsepin, A. Barty, W.H. Benner, S. Boutet, G.K. Feld, S.P. Hau-Riege, R.A. Kirian, C. Kupitz, M. Messerschmitt, J.I. Ogren, T. Pardini, B. Segelke, G.J. Williams, J.C.H. Spence, R. Abela, M. Coleman, J.E. Evans, G. Schertler, M. Frank and X.D. Li, "7 Å resolution in protein two-dimensional-crystal X-ray diffraction at Linac Coherent Light Source." *Phil. Trans. R. Soc. B* 369 (2014) 20130500. doi: 10.1098/rstb.2013.0500
49. M. Frank, D.B. Carlson, M.S. Hunter, G.J. Williams, M. Messerschmidt, N.A. Zatsepin, A. Barty, W.H. Benner, K. Chu, A.T. Graf, S.P. Hau-Riege, R.A. Kirian, C. Padeste, T. Pardini, B. Pedrini, B. Segelke, M.M. Seibert, J.C.H. Spence, C.J. Tsai, S.M. Lane, X.D. Li, G. Schertler, S. Boutet, M. Coleman and J.E. Evans, "Femtosecond X-ray Diffraction from Two-Dimensional Protein Crystals", *IUCrJ*(2014) 1, 95–100, doi: 10.1107/S2052252514001444

D) (Nano)-Structuring and Surface Functionalization

50. J. Huang, D. Fan, Y. Ekinici, C. Padeste, "High Throughput Fabrication of Ultrahigh Resolution Metal Nanowires and Nanodots through EUV Interference Lithography", *Microelectronic Engineering*, 141 (2015) 32–36, doi: 10.1016/j.mee.2015.01.016.

51. Celestino Padeste, Sandro Bellini, Dorota Siewert and Helmut Schiff, "Anti-sticking layers for nickel-based nanoreplication tools", *Microelectron. Engineering* 123 (2014) 23–27.
doi: 10.1016/j.mee.2014.03.039.
52. T. Rath, C. Padeste, M. Vockenhuber, C. Fradler, M. Edler, A. Reichmann, I. Letofsky-Papst, F. Hofer, Y. Ekinci and T. Griesser, "Direct extreme UV-lithographic conversion of metalxanthates into nanostructured metal sulfide layers for hybrid photovoltaics *J. Mater. Chem. A*, 1 (2013) 11135–11140, doi: 10.1039/c3ta12592k.
53. P. Kappenberger, F. Luo, L. J. Heyderman, H.H. Solak, C. Padeste, C. Brombacher, D. Makarov, T.V. Ashworth, L. Philippe, H. J. Hug, and M. Albrecht, "Template-directed self-assembled magnetic nanostructures for probe recording," *Appl. Phys. Lett.* **95**, (2009) 023116.
54. V. Auzelyte, C. Dais, P. Farquet, D. Grützmacher, L. Heyderman, F. Luo, S. Olliges, C. Padeste, P.K. Sahoo, T. Zhomson, A. Turchanin, C. David and H.H. Solak, "Extreme Ultraviolet Interference Lithography at the Paul Scherer Institut", *Journal of Micro/Nanolithography, MEMS, and MOEMS*, **8** (2009), 021204.
55. T. Scharf, S. Park, C. Padeste, H. Schiff, N. Basturk and J. Grupp, „Liquid Crystal Alignment on Chemical Nanopatterns: Control over Azimuthal and Polar Alignment“, *Mol. Cryst. Liq. Cryst.* **438** (2005) 55-65.
56. S. Park, S. Saxer, C. Padeste, H.H. Solak, J. Gobrecht and H. Schiff „Chemical Patterning of Sub-50 nm Half Pitches via Nanoimprint Lithography“, *Microelectronic Engineering*, **78-79** (2005) 682-688.
57. H. Schiff, S. Saxer, S. Park, C. Padeste, U. Piles and J. Gobrecht, „Controlled co-evaporation of silanes for nanoimprint stamps“, *Nanotechnology* **16** (2005) 171-175.
58. S. Park, C. Padeste, H. Schiff, J. Gobrecht and T. Scharf, „Chemical nanopatterns via nanoimprint lithography for simultaneous control over azimuthal and polar alignment of liquid crystals“, *Adv. Materials*, **17** (2005) 1398-1401.
59. S. Park, H. Schiff, C. Padeste, A. Scheybal, T. Jung, B. Schnyder, R. Kötz and J. Gobrecht, „Improved anti-adhesive coating for nanoimprint lithography by co-evaporation of tri- and monochlorosilanes“, *Mat. Res. Soc. Proc. Vol. EXS-2* (2004) 37-39.
60. D. Stamou, C. Musil, W.-P. Ulrich, K. Leufgen, C. Padeste, C. David, J. Gobrecht, C. Duschl, and H. Vogel, „Site-Directed Molecular Assembly on Templates Structured with Electron-Beam Lithography“, *Langmuir* **20** (2004) 3495-3497.
61. S. Park, H. Schiff, C. Padeste, B. Schnyder, and J. Gobrecht. „Improved Anti-adhesive Coating for Nanoimprint Lithography by Co-evaporation of Tri- and Monochlorosilanes“, *Proceedings of the MRS2003 Fall Meeting*.
62. S. Park, H. Schiff, C. Padeste, B. Schnyder, R. Kötz and J. Gobrecht, „Anti-adhesive Layers on Nickel Stamps for Nanoimprint Lithography“, *Microelectronic Engineering*, **73-74** (2004) 196-201.
63. H. H. Solak, C. Padeste, J. Gobrecht, „Patterning of Surfaces with X-ray Interference Lithography at Macromolecular Length Scales“, *European Cells and Materials* **6**, Suppl. 1 (2003) 71.
64. S. Park, C. Padeste, H. Schiff and Jens Gobrecht, „Nanostructuring of Anti-adhesive Layers by Hot Embossing Lithography“, *Microelectronic Engineering*, **67-68** (2003) 252-258.
65. H. Schiff, L.J. Heyderman, C. Padeste and J. Gobrecht, „Chemical Nano-Patterning using Hot Embossing Lithography“, *Microelectronic Engineering*, **61-62** (2002) 423-428.

E) Surface Science and Catalysis

66. V. Guzenko, J. Ziegler, A. Savouchkina, C. Padeste, C. David, "Fabrication of large scale arrays of metallic nanodots by means of high resolution e-beam lithography". *Microelectron. Engineering*, **88**, 8 (2011) 1972-1974.

67. A. Savouchkina, A. Foelske-Schmitz, R. Kötzt, A. Wokaun, G. G. Scherer, C. Padeste, J. Ziegler, V. Auzelyte, H. H. Solak, "Extreme Ultraviolet Interference Lithography for Generation of Platinum Nanoparticles on Glassy Carbon" *ECS Transactions*, **25**, 24 (2010) 175-184.
68. D.L. Trimm, C. Padeste, D.J. Pettigrew, B. Whittington and N.W. Cant, "Precious Metal-Ceria interactions in Car Exhaust Catalysts", in R.J. MacDonald, E.C. Taglauer, K.R. Wandelt (Eds.), „Surface Science, Principles and Current Applications“, Springer, Heidelberg (1996) pp. 363-372.
69. C. Padeste, N.W. Cant and D.L. Trimm, „Reactions of Ceria Supported Rhodium with Hydrogen and Nitric Oxide Studied with TPR/TPO and XPS techniques“, *Catal. Lett.* **28** (1994) 301-311.
70. F. Mohammadi, P. Timbrell, S. Zhong, C. Padeste and M. Skyllas-Kazakos, „Overcharge in the Vanadium Redox Battery and Changes in Electrical Resistivity and Surface Functionality of Graphite-Felt Electrodes“ *J. Power Sources*, **52** (1994) 61-68.
71. C. Padeste, N.W. Cant and D.L. Trimm, „Thermal Decomposition of Pure and Rhodium Impregnated Cerium (III) Carbonate Hydrate in Different Atmospheres“, *Catal. Lett.* **24** (1994) 95-105.
72. S. Zhong, C. Padeste, M. Kazacos and M. Skyllas-Kazacos, „Comparison of the Physical, Chemical and Electrochemical Properties of Rayon- and Polyacrylonitrile-Based Graphite Felt Electrodes“, *J. Power Sources*, **45** (1993) 29-41.
73. C. Padeste, N.W. Cant and D. L. Trimm, „The Influence of Water on the Reduction and Reoxidation of Ceria“, *Catal. Lett.* **18** (1993) 305-316.
74. C. Padeste, D.L. Trimm and R.N. Lamb, „Characterization of Sn Doped Ni/Al₂O₂ Steam Reforming Catalysts by XPS“, *Catal. Lett.*, **17** (1993) 333-339.

F) Solid State Chemistry

75. C. Padeste, H. Schmalte and H.R. Oswald, „Crystal Structure of Calcium Hydroxide Nitrate Hydrate and its Superstructure in Relation to Cadmium Hydroxide Nitrate Hydrate“, *Z. Krist.* **200** (1992) 35-96.
76. C. Padeste, A. Reller and H.R. Oswald, „The Thermal Behaviour of Pure and Nickel-Doped Hydromagnesite in Different Atmospheres“, *Mat. Res. Bull.* **26**, 12 (1991) 1263-1268.
77. A. Reller, R. Emmenegger, C. Padeste and H.R. Oswald, „Thermochemical Reactivity of Metal Carbonates“, *Chimia* **45** (1991) 262-266.
78. C. Padeste, A. Reller and H.R. Oswald, „The Influence of Transition Metals on the Thermal Decomposition of Calcium Carbonate in Hydrogen“, *Mat. Res. Bull.* **25** (1990) 1299-1305.
79. A. Reller, H. Maurer and C. Padeste, „The Use of Solar Energy for the Generation of Organic Carbon Compounds from Natural Metal Carbonates and for the Thermochemical Reduction of Metal Oxides“, *Proc. 4th Int. Symp. on Research, Development and Applications of Solar Thermal Technology*, Hemisphere Publishing Corporation, New York, Washington, Philadelphia, London, 1990, p. 407.
80. A. Reller, C. Padeste and P. Hug, „Formation of Organic Compounds from Metal Carbonates“, *Nature*, **239** (1987) 527.

G) Other

81. K. Nygard, D.K. Satapathy, E. Perret, C. Padeste, O. Bunk, C. David and J.F. van der Veen, "Surface-specific ordering of reverse micelles in confinement", *Soft Matter* **6** (2010) 4536-4539.
82. J. Herzen, T. Donath, F. Pfeiffer, O. Bunk, C. Padeste, F. Beckmann, A. Schreyer, and C. David, "Quantitative phase-contrast tomography of a liquid phantom using a conventional x-ray tube source," *Optics Express*, **17**, 12 (2009), 10010-10018.
83. P. Kappenberger, F. Luo, L. J. Heyderman, H.H. Solak, C. Padeste, C. Brombacher, D. Makarov, T.V. Ashworth, L. Philippe, H. J. Hug, and M. Albrecht, Template-directed self-assembled magnetic nanostructures for probe recording, *Appl. Phys. Lett.* **95**, (2009) 023116.
84. O. Bunk, D.K. Satapathy, F. Pfeiffer, A. Diaz, C. David, K. Nygard, E. Perret, C. Padeste, P.R. Willmott, B.D. Patterson, B. Schmitt and J.F. van der Veen, Concentration Profiles of Colloidal Fluids in One-Dimensional Confinement, *Chima* **62**, 10 (2008), 789-792.
85. O. Bunk, A. Diaz, F. Pfeiffer, C. David, C. Padeste, H. Keymeulen, P.R. Willmott, B.D. Patterson, B. Schmitt, D.K. Satapathy, J.F. van der Veen, H. Guo, and G.H. Wegdam, "Confinement-induced liquid ordering investigated by x-ray phase retrieval", *Phys. Rev. E* **75**, 021501 (2007).