




List of Publications, Patent Applications, and Talks

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Books

1. U. Wittrock, *Feldstrukturen, thermooptische Effekte und Wirkungsgrade von Festkörper-Rohrlasern*, dissertation (Shaker-Verlag, Aachen, 1994).
2. U. Wittrock, ed., *Proceedings of the 4th International Workshop on Adaptive Optics for Industry and Medicine* (Springer-Verlag, Heidelberg, 2005).

Journals and proceedings papers

1. U. Wittrock, B. Eppich, and H. Weber, "Inside-pumped Nd:YAG tube laser," *Opt. Lett.* **16**, 1092-1094 (1991).
2. N. Hodgson, Q. Lü, S. Dong, B. Eppich, and U. Wittrock, "Hochleistungs-Festkörper-Laser in Stab-, Slab- und Rohrgeometrie," *Laser und Optoelektronik* **23** (3), 82-92 (1991).
3. U. Wittrock, "High-power Nd:YAG lasers," *Advanced Materials* **4**, 295 (1992).
4. U. Wittrock, "High power rod, slab, and tube lasers," *invited*, in *Solid State Lasers: New Developments and Applications*, Series B: Physics, Vol. 317 of Proceedings of the NATO Advanced Study Institute on Solid State Lasers, M. Inguscio and R. Wallenstein, eds., 45-66 (Plenum Press, 1992).
5. U. Wittrock, M. Kumkar, and H. Weber, "Coherent radiation fields with purely radial or azimuthal polarization," in *Proceedings of the Workshop on Laser Beam Characterization*, P.M. Mejías, H. Weber, R. Martínez-Herrero, and A. González-Ureña, eds., 41 (Sociedad Española de Optica, Madrid 1993).
6. H. Weber, U. Wittrock, S. Dong, Q. Lü, and M. Kumkar, "High average power lasers with unstable resonators and high average power Q-switched lasers," in *Proceedings of the International Meeting of the EUREKA HPSSL*, Project EU226, Budapest (1994).
7. U. Wittrock, G. Bostanjoglo, S. Dong, B. Eppich, Th. Haase, Q. Lü, N. Müller, and O. Holst, "High-power solid state lasers with improved beam quality," in *High-Power Gas and Solid State Lasers*, Vienna, M. Bohrer, T. Letardi, D. Schuoecker, H. Weber, eds., *Proc. SPIE* **2206**, 396 (1994).
8. B. Eppich, H. Weber, and U. Wittrock, "Beam quality of unstable and aberrated resonators," *invited*, in *Proceedings of the International Conference on Lasers '94*, Quebec, Canada, V. J. Corcoran and T. A. Goldman, eds., paper TN1 (1994).

9. U. Wittrock, S. Dong, B. Eppich, Q. Lü, N. Müller, and H. Weber, "Beam parameter products of unstable resonators," in *Beam Control, Diagnostics, Standards, and Propagation* (part of Photonics West 1995), L. W. Austin, A. Giesen, D. H. Leslie, eds., Proc. SPIE **2375**, 172-183 (1995).
10. Q. Lü, U. Wittrock, and S. Dong, "Photoelastic effects in Nd:YAG rod and slab lasers," *Optics & Laser Technology* **27**, 95 (1995).
11. Q. Lü, N. Kugler, H. Weber, S. Dong, N. Müller, and U. Wittrock, "A novel approach for compensation of birefringence in cylindrical Nd:YAG rods," *Optical and Quantum Electronics* **28**, 57 (1996).
12. I. Buske and U. Wittrock, "Simulation of optical resonators with aberrations," in *Proceedings of the 2nd International Workshop on Adaptive Optics for Industry and Medicine*, G. Love, ed., 155-162 (World Scientific, London, 1999).
13. I. Buske, H.-M. Heuck, and U. Wittrock, "Master-oscillator-power-amplifier laser with adaptive aberration correction," in *Proceedings of the 3^d International Workshop on Adaptive Optics for Industry and Medicine*, S. R. Restaino and S. W. Teare, eds., 49-54 (Starline Printing Inc., Albuquerque, USA, 2002).
14. I. Buske, H.-M. Heuck, and U. Wittrock, "Adaptive aberration control in laser amplifiers and laser resonators," in *Conference on Laser Resonators and Beam Control VI*, A. Kudryashov and A. Paxton, eds., Proc. SPIE **4969**, 122-136, invited (2003).
15. H. Zimer and U. Wittrock, "1.6 W of single-mode output power from a novel power-scaling scheme for monolithic nonplanar ring lasers," *Opt. Lett.* **29**, 1635-1637 (2004).
16. H. Zimer, B. Langer, U. Wittrock, F. Heine, U. Hildebrandt, S. Seel, and R. Lange, "Novel, compact, and simple Nd:YVO₄ laser with 12 W of CW optical output power and good beam quality," in *Proceedings of the 5th Internat. Conference on Space Optics (ICSO)*, B. Warmbein, ed., ESA SP-554, 643-647 (European Space Agency, 2004).
17. H. Zimer, K. Albers, and U. Wittrock, "Grazing incidence YVO₄-Nd:YVO₄ composite thin slab laser with low thermo-optic aberrations," *Opt. Lett.* **29**, 2761-2763 (2004).
18. P. Welp, I. Buske, and U. Wittrock, "Intracavity use of membrane mirrors in a Nd:YVO₄ laser," in *Proceedings of the 4th International Workshop on Adaptive Optics for Industry and Medicine*, U. Wittrock, ed. 229-236 (Springer, Heidelberg, 2005).
19. I. Buske, H.-M. Heuck, P. Welp, and U. Wittrock, "Aberrations of a master-oscillator-power-amplifier laser with adaptive optics correction," in *Proceedings of the 4th International Workshop on Adaptive Optics for Industry and Medicine*, U. Wittrock, ed., 249-259 (Springer, Heidelberg, 2005).
20. H.-M. Heuck, I. Buske, U. Buschmann, H. Krause, and U. Wittrock, "A novel micro-processor-controlled high-voltage driver for deformable mirrors," in *Proceedings of the 4th International Workshop on Adaptive Optics for Industry and Medicine*, U. Wittrock, ed., 73-81 (Springer, Heidelberg, 2005).
21. H.-M. Heuck, C. Häfner, S. Borneis, E. Gaul, T. Kühn, P. Wiewior and U. Wittrock, "Wavefront measurement and adaptive optics at the PHELIX laser," in *Proceedings of the 4th International Workshop on Adaptive Optics for Industry and Medicine*, U. Wittrock, ed., 283-290 (Springer, Heidelberg, 2005).

22. T. Kühl, R. Bock, S. Borneis, E. Brambrink, H. Brand, J. Caird, E. M. Campbell, K. Cassou, E. Gaul, S. Götte, C. Häfner, T. Hahn, H.-M. Heuck, D.H.H. Hoffmann, D. Javorkova, A. Klisnick, H.-J. Kluge, S. Kunzer, T. Merz, P. Neumayer, P. Nickles, M. D. Perry, D. Reemts, E. Ros, M. Roth, S. Samek, W. Sandner, G. Schaumann, F. Schrader, W. Seelig, A. Tauschwitz, R. Thiel, D. Ursescu, P. Wiewior, U. Wittrock, and B. Zielbauer, "PHELIX – status and first experiments," in *Proceedings of the 6th International Workshop on Application of Lasers in Atomic Nuclei Research (LASER 2004)*, Hyperfine Interactions **162**, 55-62 (2005).
23. R. Bock, S. Borneis, E. Brambrink, H. Brand, J. Caird, E. M. Campbell, E. Gaul, S. Goette, C. Häfner, T. Hahn, H.-M. Heuck, D. H. H. Hoffmann, D. Javorkova, H.-J. Kluge, T. Kühl, S. Kunzer, T. Merz, P. Neumayer, M. D. Perry, D. Reemts, M. Roth, S. Samek, G. Schaumann, F. Schrader, W. Seelig, A. Tauschwitz, R. Thiel, D. Ursescu, P. Wiewior, U. Wittrock, and B. Zielbauer, "Status of PHELIX laser and first experiments," *Laser and Particle Beams* **23**, 385-389 (2005).
24. U. Wittrock and P. Welp, "Adaptive laser resonator control with deformable MOEMS mirrors," in *MEMS/MOEMS Components and Their Applications III* (part of Photonics West 2006), S. S. Olivier, S. A. Tadigadapa, A. K. Henning, eds., Proc. SPIE **6113**, 61130C, invited (2006).
25. I. Buske and U. Wittrock, "Diffraction analysis of aberrated laser resonators," *Appl. Phys. B* **83**, 229-233 (2006).
26. K. Albers and U. Wittrock, "Novel concept for a 0.5-J laser pump source with high electro-optical efficiency," in *Proceedings of the 6th International Conference on Space Optics (ICSO)*, Noordwijk, Netherlands, A. Wilson, ed. (European Space Agency, 2006).
27. H.-M. Heuck, P. Neumayer, T. Kühl, and U. Wittrock, "Chromatic aberration in petawatt-class lasers," *Appl. Phys. B* **84**, 421-428 (2006).
28. H.-M. Heuck, U. Wittrock, J. Fils, S. H. Borneis, K. Witte, U. Eisenbart, D. Javorkova, V. Bagnoud, S. Götte, A. Tauschwitz, and E. Onkels, "Adaptive Optics at the PHELIX-Laser," in *Adaptive Optics for Laser Systems and Other Applications* (part of International Congress on Optics and Optoelectronics 2007), G. Cheriaux, C. J. Hooker, M. Stupka, eds., Proc. SPIE **6584**, 658402, invited (2007).
29. P. Welp, H.-M. Heuck, and U. Wittrock, "Intracavity adaptive optics optimization of an end-pumped Nd:YVO₄ laser," in *Proceedings of the 6th International Workshop on Adaptive Optics for Industry and Medicine*, C. Dainty, ed., 413-418 (Imperial College Press, 2008).
30. S. Verpoort, P. Welp, and U. Wittrock, "Novel unimorph deformable mirror for solid state laser resonators," in *MEMS Adaptive Optics III* (part of Photonics West 2009), Proc. SPIE **7209**, 7209-22, invited (2009).
31. S. Verpoort and U. Wittrock, "Actuator patterns for unimorph and bimorph deformable mirrors," *Appl. Opt.* **49**, G37–G46 (2010).
32. U. Wittrock, "Laryngeally echolocating bats," *Brief Communication Arising, Nature* **466**, E6 (2010).
33. S. Verpoort and U. Wittrock, "Miniaturized adaptive mirror for solid state laser resonators," in *Proceedings of the 7th International Workshop on Adaptive Optics for Industry and Medicine*, Shatura, Russia (2009).
34. S. Verpoort and U. Wittrock, "Unimorph deformable mirror for telescopes and laser applications in space," in *Proceedings of the 8th International Conference on Space Optics (ICSO)*, Rhodes Island, Greece (2010).

35. S. Verpoort and U. Wittrock, "Novel unimorph deformable mirror with monolithic tip-tilt functionality for solid state lasers," *MEMS Adaptive Optics V* (part of Photonics West 2011), Proc. SPIE **7931**, 7931-6 (2011).
36. K. Albers and U. Wittrock, "Optical pump concepts for highly efficient quasi-three-level lasers", Appl. Phys. B **105**, 245-254 (2011).
37. S. Verpoort, P. Rausch, and U. Wittrock, "Characterization of a miniaturized unimorph deformable mirror for high power cw-solid state lasers," Proc. SPIE **8253**, 8253-8 (2012).

Other Publications and Awards

1. S. Borneis, H. Balonier, R. Bock, E. Brambrink, H. Brand, C. Bruske, J. Caird, E. W. Gaul, W. Geithner, S. Götte, C. Häfner, T. Hahn, W. Heddrich, H. M. Heuck, D. H. H. Hoffmann, D. Javorkova, H.-J. Kluge, T. Kühl, S. Kunzer, T. Merz, P. Neumayer, D. Reemts, M. Roth, S. Samek, G. Schaumann, F. Schrader, W. Seelig, C. Spielmann, A. Tauschwitz, R. Thiel, D. Ursescu, P. Wiewior, and U. Wittrock, "Status of PHELIX laser program," in *GSI Scientific Report 2003*, Gesellschaft für Schwerionenforschung, Darmstadt, 120-121 (2004)
2. H.-M. Heuck, S. Borneis, E. Gaul, C. Häfner, A. Kudryashov, T. Kühl, P. Wiewior, and U. Wittrock, "Beam diagnostics and adaptive optics for PHELIX," in *GSI Scientific Report 2003*, Gesellschaft für Schwerionenforschung, Darmstadt, 124 (2004).
3. S. Borneis, R. Bock, E. Brambrink, H. Brand, C. Bruske, J. Caird, R. Fuchs, S. Götte, T. Hahn, H. M. Heuck, D. H. H. Hoffmann, D. Javorkova, H.-J. Kluge, T. Kühl, S. Kunzer, R. Lotz, T. Merz, P. Neumayer, E. Onkels, D. Reemts, M. Roth, G. Schaumann, F. Schrader, C. Spielmann, R. Stenner, A. Tauschwitz, R. Thiel, D. Ursescu, P. Wiewior, and U. Wittrock, "Status of PHELIX," in *GSI Scientific Report 2004*, Gesellschaft für Schwerionenforschung, Darmstadt, 222-223 (2005).
4. V. Bagnoud, A. Blazevich, R. Bock, S. Borneis, H. Brand, C. Bruske, J. Caird, U. Eisenbarth, J. Fils, R. Fuchs, S. Götte, M. Hagemann, T. Hahn, H.-M. Heuck, C. Hildebrandt, D. H. H. Hofmann, D. Javorkova, H.-J. Kluge, F. Knobloch, Th. Kühl, S. Kunzer, M. Kreutz, R. Lotz, T. Merz, P. Neumayer, E. Onkels, D. Reemts, M. Roth, H. Schmidt, C. Spielmann, R. Stenner, A. Tauschwitz, R. Thiel, U. Thiemer, D. Ursescu, K. Witte, U. Wittrock, and B. Zielbauer, "PHELIX progress report," in *GSI Scientific Report 2005*, Gesellschaft für Schwerionenforschung, Darmstadt, 356-358 (2006).
5. K. Witte, V. Bagnoud, A. Blazevic, S. Borneis, C. Bruske, J. Caird, S. Calderon, U. Eisenbarth, J. Fils, R. Fuchs, S. Götte, T. Hahn, H.-M. Heuck, C. Hildebrandt, D. H. H. Hoffmann, D. Javorkova, G. Klappnich, J. Kluge, F. Knobloch, T. Kühl, M. Kugler, S. Kunzer, M. Kreutz, B. LeGarrec, R. Lotz, T. Merz-Mantwill, E. Onkels, S. Radau, D. Reemts, R. M. Richard, M. Roth, A. Roussel, R. Stenner, A. Tauschwitz, R. Thiel, U. Thiemer, D. Ursescu, U. Wittrock, and B. Zielbauer, "PHELIX Progress Report 2006," in *Annual Report of the Gesellschaft für Schwerionenforschung*, Darmstadt, 291-293 (2007).
6. H. Heuck, J. Fils, P. Welp, V. Bagnoud, U. Eisenbarth, S. Götte, A. Tauschwitz, M. Hagemann, E. Onkels, S. Borneis, K. Witte, and U. Wittrock, "Wavefront measurements of the PHELIX beam," *GSI Scientific Report 2006*, Gesellschaft für Schwerionenforschung mbH, Darmstadt, 294 (2007).

7. R. Köjer, P. Welp, S. Verpoort, H.-M. Heuck, K. Albers, and U. Wittrock, "Adaptive Optik für Festkörperlaser," in *InnovationsForum Photonik, Posterwettbewerb 2007*, award for research accomplishments with a perspective for practical applications, Goslar (2007).

Patent Applications / Patents

1. U. Wittrock, *Vorrichtung zum optischen Pumpen von Festkörperlasern mit Hilfe von Fluoreszenzkonvertern*, German Patent Application DE 4021423 A1 (1990).
2. U. Wittrock, *Festkörperlaseranordnung (Slab-Laser)*, German Patent Application DE 4428968 A1 (1994).
3. Q. Lü and U. Wittrock, *Laseranordnung zur Kompensation der Doppelbrechung und Bifokussierung in Lasermedien*, German Patent DE 441551 B4 (application 1994, issued 2006).
4. U. Wittrock, *Faserlaser mit einer Faser als aktivem Material und einer Pumplichtquelle zum optischen Pumpen der Faser*, German Patent Application DE 19635608 A1 (1996).
5. U. Wittrock, *Vorrichtung zur Güteschaltung eines Lasers*, German Patent Application DE 19643576 A1 (1996).
6. U. Wittrock, *Nicht-planarer Ringlaser*, German Patent Application DE 19722943 A1 (1997).
7. U. Wittrock, *Adaptives optisches System*, German Patent Application DE 19941224 A1 (1999).
8. U. Wittrock, *Monolithischer modengekoppelter Laser*, German Patent Application DE 10360763 A1 (2003).
9. U. Wittrock, *Solid-state laser amplifier*, US Patent US 6,944,196 B2 (application 2003, issued 2005), European Patent EP 1 333 547 B1 (application 2003, issued 2006).
10. U. Wittrock, K. Petermann, *Mehrschichtiges Lasermedium*, German Patent DE 102007048463 B4 (application 2007, issued 2009).
11. U. Wittrock, *Laserkristall*, German Patent Application DE 102007048464.1 A1 (2007).

Talks

1. U. Wittrock, J. Eicher, and N. Hodgson, "Efficiency, thermal stress, and thermal lensing of a solid state tube laser," presented at the Fourth International Meeting of the EUREKA HPSSL Project EU226, Paris (1989).
2. U. Wittrock, "Inside-pumped solid state tube laser for high average power," Lawrence Livermore National Laboratory, Livermore, CA (May 1990).
3. U. Wittrock, "Inside-pumped solid state tube laser for high average power," Ginzton Laboratory, Stanford University, Palo Alto, CA (May 1990).

4. U. Wittrock and H. Weber, "Thermische Effekte beim innengepumpten Nd:YAG-Rohrlaser," *Frühjahrstagung der Deutschen Physikalischen Gesellschaft (VI)* **26**, Freiburg, paper Q 8.8 (1991).
5. U. Wittrock and B. Eppich, "Theoretische und experimentelle Untersuchungen zum Festkörper-Rohrlaser," Inst. f. Angewandte Physik, Prof. Huber, Universität Hamburg (April 1991).
6. U. Wittrock and H. Weber, "Inside-pumped Nd:YAG tube laser with 7.5% efficiency," in *Conference on Lasers and Electro-Optics (CLEO)*, 1991, pp. 370-371 (Optical Society of America, Washington, D.C., 1991).
7. U. Wittrock, "Inside-pumped Nd:YAG tube laser," National Optics Institute, Quebec, Canada (May 1991).
8. U. Wittrock and B. Eppich, "Innengepumpter Nd:Glas-Rohrlaser," *Frühjahrstagung der Deutschen Physikalischen Gesellschaft (VI)*, Hannover, paper Q 33.2 (1992).
9. U. Wittrock, B. Eppich, and H. Weber, "Beam quality of the 1-kW inside-pumped Nd:YAG tube laser," *Conference on Lasers and Electro-Optics (CLEO)*, Anaheim, CA, 1992, pp. 94-95 (Optical Society of America, Washington, D.C., 1992).
10. U. Wittrock, B. Eppich, and H. Weber, "Inside-pumped Nd:YAG tube lasers," Hughes Aircraft Corp., Carlsbad, CA (May 1992).
11. U. Wittrock, B. Eppich, and H. Weber, "Beam quality of inside-pumped Nd:YAG tube lasers," Lawrence Livermore National Laboratory, Livermore, CA (June 1992).
12. U. Wittrock, B. Eppich, and H. Weber, "Inside-pumped Nd:YAG tube lasers," Laser Technology Associates, Johnson City, NY (June 1992).
13. U. Wittrock, "High power rod, slab, and tube lasers," NATO Advanced Study Institute on Solid State Lasers: *New Developments and Applications*, invited, Elba, Italy (1992).
14. U. Wittrock, B. Eppich, and O. Holst, "Internally pumped Nd:YAG tube laser with 10% efficiency and 1.8-kW output power," *Conference on Lasers and Electro-Optics (CLEO)*, Baltimore, MD, 1993, Technical Digest, talk CW17, pp. 278 (Optical Society of America, Washington, D.C., 1993).
15. U. Wittrock, "High-power solid state lasers in rod- slab- and tube geometry," *Laser 93*, invited, Münchener Messe und Ausstellungsgesellschaft mbH, Munich (1993).
16. U. Wittrock, M. Kumkar, and H. Weber, "Coherent radiation fields with purely radial or azimuthal polarization," *Workshop on Laser Beam Characterization*, Sociedad Espanola de Optica, Madrid (1993).
17. H. Weber, U. Wittrock, S. Dong, Q. Lü, and M. Kumkar, "High average power lasers with unstable resonators and high average power Q-switched lasers," *International Meeting of the EUREKA HPSSL*, Project EU226, Budapest (1994).
18. U. Wittrock, G. Bostanjoglo, S. Dong, B. Eppich, Th. Haase, Q. Lü, N. Müller, and O. Holst, "High-power solid state lasers with improved beam quality," *High-power gas and solid state lasers*, Vienna, SPIE conference, 2206 (1994).
19. B. Eppich, H. Weber, and U. Wittrock, "Beam quality of unstable and aberrated resonators," invited, *International Conference on Lasers '94*, Quebec, Canada, paper TN1 (1994).

20. U. Wittrock, "Optical resonators for high-power lasers," *European Conference on Lasers and Electro-Optics (CLEO Europe)*, Amsterdam, 1994, paper CFA1, invited (Institute of Physics, London, 1994).
21. U. Wittrock, "Slab-laser development at the Festkörper-Laser Institut Berlin GmbH," National Optics Institute, Quebec, Canada (1994).
22. U. Wittrock, S. Dong, B. Eppich, Q. Lü, N. Müller, and H. Weber, "Beam parameter products of unstable resonators," *Photonics West '95*, San Jose, CA, SPIE conference, paper 2375-23 (1995).
23. U. Wittrock, S. Dong, Q. Lü, and N. Müller, "High-average-power cw Nd:YAG slab laser," *Conference on Lasers and Electro-Optics (CLEO)*; Baltimore, MD, 1995, paper CTuC2 (Optical Society of America, Washington, D.C., 1995).
24. N. Kugler, S. Dong, Q. Lü, and U. Wittrock, "Experimentelle Untersuchungen dynamisch stabiler Resonatoren mit Kompensation der Doppelbrechung in YAG-Stäben," *Frühjahrstagung der Deutschen Physikalischen Gesellschaft*, Jena (1996).
25. U. Wittrock, "Konzept für einen luftgekühlten, Dioden-gepumpten Faser-Laser," Deutsche Forschungsanstalt für Luft- und Raumfahrt, Institut für Technische Physik, Stuttgart (1996).
26. U. Wittrock, "Neue Entwicklungen und meßtechnische Anwendungen von Festkörperlasern," Kolloquium zum Thema Lidarmethoden, Deutsche Forschungsanstalt für Luft- und Raumfahrt, Oberpfaffenhofen (1997).
27. U. Wittrock, "Neues Konzept für MISER-Laser mit mehr als 10 W Ausgangsleistung," Fa. Carl Zeiss, Oberkochen (1998).
28. I. Buske and U. Wittrock, "Simulation of optical resonators with aberrations," *2nd International Workshop on Adaptive Optics for Industry and Medicine*, Durham (1999).
29. H. Zimer, J. Hüve, and U. Wittrock, "Konzept für einen neuartigen monolithischen Ringlaser hoher Leistung," *10. Norddeutscher Lasertag*, Hamburg, Germany, poster (1999).
30. I. Buske, J. Hüve, and U. Wittrock, "Einfluss von Aberrationen auf Resonatoren von Hochleistungslasern," *10. Norddeutscher Lasertag*, Hamburg, Germany, poster (1999).
31. I. Buske, J. Hüve, and U. Wittrock, "Einfluss von Aberrationen auf optische Resonatoren," *Frühjahrstagung der Deutschen Physikalischen Gesellschaft*, Berlin, paper Q 31.5 (2001).
32. U. Wittrock, I. Buske, and H.-M. Heuck, "Master-oscillator-power-amplifier laser with adaptive aberration correction," *3rd International Workshop on Adaptive Optics for Industry and Medicine*, Albuquerque (2001).
33. H. Zimer and U. Wittrock, "Novel high-power Nd:YAG-MISER," *Conference on Lasers and Electro-Optics (CLEO)*, Long Beach, CA, 2002, OSA Technical Digest TOPS vol. 73, paper CWG5, pp. 391 – 392 (Optical Society of America, Washington, D.C., 2002).
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35. U. Wittrock, "Adaptive optics for solid state lasers," Ginzton Laboratory, Stanford University, Palo Alto, CA (May 2002).
36. U. Wittrock, "Festkörper-Laser hoher räumlicher und spektraler Strahldichte," Kolloquium des Instituts für Angewandte Physik, Universität Münster (2002).
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38. I. Buske, H.-M. Heuck, and U. Wittrock, "Adaptive aberration control in laser amplifiers and laser resonators," *Photonics West 2003*, San Jose, CA, SPIE conference, paper 4969-36, invited (2003).
39. U. Wittrock, "Proposal for a monolithic, modelocked Ti:Sa Laser," Ginzton Laboratory, Stanford University, Palo Alto, CA (2003).
40. H. Zimer and U. Wittrock, "Neuartiger monolithischer Ringlaser mit 1,6 W single-mode Ausgangsleistung," *Frühjahrstagung der Deutschen Physikalischen Gesellschaft*, Hannover, paper Q 22.3 (2003).
41. U. Wittrock and H.-M. Heuck, "Diagnostics and adaptive optics for PHELIX," *PHELIX Workshop and User Meeting*, Darmstadt (2003).
42. U. Wittrock, I. Buske, and H.-M. Heuck, "Adaptive laser resonators," *Conference on Lasers and Electro-Optics (CLEO)*, Baltimore, MD, 2003, Vol. 88 of OSA Technical Digest TOPS, paper CFM1, invited (Optical Society of America, Washington, D.C. 2003).
43. U. Wittrock, I. Buske, and H.-M. Heuck, "Adaptive optics for solid-state lasers," *European Conference on Lasers and Electro-Optics (CLEO Europe)*, Munich, Europhysics Conference Abstracts vol. 27E, paper CS2-1-2-TUE (European Physical Society, Mulhouse, France, 2003).
44. H. Zimer and U. Wittrock, "1.6 W single-mode oscillation from a novel monolithic ring-laser," *European Conference on Lasers and Electro-Optics (CLEO Europe)*, Munich, Europhysics Conference Abstracts vol. 27E, paper CA5-3-TUE (European Physical Society, Mulhouse, France, 2003).
45. P. Welp, I. Buske, and U. Wittrock, "Intracavity use of membrane mirrors in a Nd:YVO₄ laser," *4th International Workshop on Adaptive Optics for Industry and Medicine*, Muenster, Germany (2003).
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