

Invited talks, publications and patents

Prof. Dr. Harald Schenk

Status: July 2022

List of invited talks

1. **Micro actuators for light deflection and modulation**
Bremen University, Bremen, Germany (2003)
2. **Photonic microsystems: An enabling technology for light deflection and modulation**
SPIE Photonics West, MOEMS Display and Imaging Systems, San Jose, USA, DOI:
10.1117/12.523948 (2004)
3. **Microsystems for light processing**
Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS, Montreux, Switzerland
(2005)
4. **Optical MEMS for advanced spectrometers**
Optical MEMS, Oulo, Finland, DOI: 10.1109/OMEMS.2005.1540106 (2005)
5. **Micro optical devices for light deflection and modulation**
Microsystems Technology Congress, Freiburg, Germany (2005)
6. **Micro scanning mirrors**
Swiss Federal Institute of Technology, Zurich, Switzerland (2006)
7. **2D micro scanner with high deflection for image acquisition**
Microsystems Technology Congress, Dresden, Germany (2007)
8. **Single crystalline micro mirrors**
Sino-German Symposium „The Silicon Age“, Hangzhou, China (2008)
9. **Silicon based micro optical modulators**
MicroMechanics Europe Workshop, Aachen, Germany (2008)
10. **The high versatility of silicon based micro optical modulators**
SPIE Photonics West, SPIE MOEMS-MEMS: Micro- and Nanofabrication, Plenary Talk, San Jose,
USA, DOI: 10.1117/12.828322 (2009)
11. **Fast scanning with MEMS mirrors - Possibilities and limitations**
Workshop „Fast beam deflection for laser applications“, Nuremberg, Germany (2013)
12. **High frequency MEMS scanners for imaging and patterning**
University of Freiburg, Freiburg, Germany (2014)
13. **Micro mirrors for high-speed laser deflections and patterning**
8th International Conference on Laser Assisted Net Shape Engineering LANE, Fürth, Germany, DOI:
10.1016/j.phpro.2014.08.090 (2014)
14. **Scanning micro mirrors and micro mirror arrays for laser deflection and patterning**
Kassel University, Kassel, Germany (2015)

15. **Mikrooptische Systeme für intelligente industrielle Lösungen [Micro-optical systems for intelligent industrial solutions]**
VDMA Fall Conference, Dresden, Germany (2015)
16. **Implantate - Eine interdisziplinäre Herausforderung [Implants - An interdisciplinary challenge]**
Workshop, Potsdam University, Germany (2016)
17. **Elektrostatische Mikro- und Nanoaktoren von denen Sie hören werden [Electrostatic micro and nano actuators that you will hear about]**
Brandenburg University of Technology, Cottbus-Senftenberg, Germany (2016)
18. **A novel electrostatic micro-actuator class and its application potential for optical MEMS**
International Conference on Optical MEMS and Nanophotonics OMN, Singapore (2016)
19. **Component and system integration of optical scanners and light modulators**
Handlungsfeldkonferenz Mikrosystemtechnik, Berlin, Germany (2016)
20. **Micro scanner tuned EC quantum cascade laser for fast mid infrared spectroscopic sensing**
Micro Photonics Conference, Berlin, Germany (2016)
21. **A contribution to the expansion of the applicability of electrostatic forces in micro transducers**
SPIE Photonics West, MOEMS and Miniaturized Systems XVI, San Francisco, USA, DOI: 10.1117/12.2249575 (2017)
22. **A new class of electrostatic micro and nano actuators**
Stanford University, Stanford, USA (2017)
23. **A novel approach for high efficient electrostatic micro/nano transducers**
University of California, Berkeley, USA (2017)
24. **Programmierbare optische Oberflächen - Mikrospiegelmatrizen mit nm-Auflösung [Programmable optical surfaces - Micro-mirror matrices with nm resolution]**
Technical University of Applied Sciences Wildau, Germany (2017)
25. **Photonik: Eine Schlüsseltechnologie der Digitalisierung [Photonics: A key technology of digitalization]**
Clusterkonferenz Optik und Photonik, Potsdam, Germany (2017)
26. **Advances in MOEMS technologies for high quality imaging systems**
Keynote talk at SPIE Photonics West, Conf. on Advanced Lithography, San Jose, USA (2018)
27. **Advanced optical MEMS for high quality imaging systems**
Brandenburg University of Technology, Cottbus-Senftenberg, Germany (2018)
28. **Ein Streifzug durch die Welt der MEMS [A journey into the world of MEMS]**
Brandenburg University of Technology, Cottbus-Senftenberg, Germany (2018)
29. **Micro energy harvester: Device concepts and materials**
Brandenburg University of Technology, Cottbus-Senftenberg, Germany (2019)
30. **iCampus: Development and transfer platform for integrated microsensor technologies in a connected world**
Date 21, Virtual Conference and Exhibition (2021)
31. **iCampus Cottbus: Innovationen in der Mikrosensorik**
Forschungsfabrik Mikroelektronik Deutschland, Digitalkonferenz (2021)

List of journal contributions (refereed)

1. D. R. Yakovlev, V. P. Kochereshko, R. A. Suris, H. Schenk, W. Ossau, A. Waag, G. Landwehr, P. C. M. Christianen, J. C. Maan
Combined exciton-cyclotron resonance in quantum well structures
In: Physical Review Letters, USA: APS, Vol.79/20, pp. 3974-3977, DOI: 10.1103/PhysRevLett.79.3974 (1997)
2. H. Schenk, M. Wolf, G. Mackh, U. Zehnder, W. Ossau, A. Waag, G. Landwehr
Influence of the negative thermal-expansion coefficient on the luminescence properties of (CdMnMg)Te
In: Journal of Applied Physics, Vol.79/11, pp. 8704-8711, DOI: 10.1063/1.362496 (1996)
3. H. Schenk, P. Dürr, U. Sobe
Antrieb für Mikromechanische Scannerspiegel
In: Elektronik Heft 24, pp. 54-58 (1999)
4. H. Schenk
Ablenkeinheiten für die Sensorik
In: Sensor-Report Nr. 5, pp. 18 (2000)
5. H. Schenk
Leuchtende Ablenkung: Mikromechanische Scannerspiegel erreichen 30 kHz
In: Elektronik-Praxis, Nr.19, pp. 114-116 (2000)
6. H. Schenk, P. Dürr, T. Haase, D. Kunze, U. Sobe, H. Lakner, H. Kück
Large deflection micromechanical scanning mirrors for linear scans and pattern generation
In: Journal of Selected Topics in Quantum Electronics, invited paper, Vol. 6, No. 5, pp. 715-722, DOI: 10.1109/2944.892609 (2000)
7. H. Schenk, P. Dürr, D. Kunze, H. Lakner, H. Kück
A resonantly excited 2D-micro-scanning-mirror with large deflection
In: Sensors and Actuators A 89, pp. 104-111, DOI: 10.1016/S0924-4247(00)00529-X (2001)
8. H. Grüger, H. Schenk, A. Wolter, A. Heberer, F. Zimmer
Spektrometer mit mikromechanischem Gitter: Mikro-opto-mechanische Systeme durchbrechen Preisbarrieren
In: Sensor Report, Nr. 6, pp. 16-17 (2004)
9. H. Schenk, A. Wolter, U. Dauderstädt, A. Gehner, H. Lakner
Micro-opto-electro-mechanical-systems technology and its impact on photonic applications
In: Journal of Microlithography, Microfabrication and Microsystems, Vol. 4, No. 4, pp. 041501-11, DOI: 10.1117/1.2131824 (2005)
10. A. Gatto, M. Yang, N. Kaiser, J. Heber, J.-U. Schmidt, T. Sandner, H. Schenk, H. Lakner
High-performance coatings for micromechanical mirrors
In: Journal of Applied Optics, Vol. 45, No. 7, pp. 1602-1607, DOI: 10.1364/AO.45.001602 (2006)
11. M. Kraft, A. Kenda, A. Frank, W. Scherf, A. Heberer, T. Sandner, H. Schenk, F. Zimmer
Single-detector micro-mechanical scanning grating spectrometer
In: Anal Bioanal Chem 386, pp. 1259-1266, DOI: 10.1007/s00216-006-0726-5 (2006)
12. S.-T. Hsu, T. Klose, C. Drabe, H. Schenk
Fabrication and characterization of a dynamically flat high resolution microscanner
In: Journal of Optics A: Pure and Applied Optics, Vol. 10, 044005, pp. 1-8, DOI: 10.1088/1464-4258/10/4/044005 (2008)

13. M. Scholles, A. Bräuer, K. Frommhagen, C. Gerwig, H. Lakner, H. Schenk, M. Schwarzenberg
Ultra compact laser projection systems based on two-dimensional resonant microscanning mirrors
In: Journal of Micro/Nanolithography, MEMS, and MOEMS, Vol. 7, No. 2, pp. 021001-1-11, DOI: 10.1117/1.2911643 (2008)
14. T. Sandner, C. Drabe, H. Schenk, A. Kenda, W. Scherf
Translatory MEMS actuators for optical path length modulation in miniaturized Fourier-transform infrared spectrometers
In: Journal of Micro/Nanolithography, MEMS, and MOEMS, Vol. 7, No. 2, pp. 021006-1-12, DOI: 10.1117/1.2945227 (2008)
15. F. Zimmer, A. Heberer, H. Grüger, H. Schenk
Investigation and characterization of highly efficient near-infrared scanning gratings used in near-infrared microspectrometers
In: Journal of Micro/Nanolithography, MEMS, and MOEMS, Vol. 7, No. 2, pp. 021005-1-10, DOI: 10.1117/1.2911035 (2008)
16. H. Grüger, T. Egloff, M. Scholles, F. Zimmer, H. Schenk
Spectrometers: MOEMS scanning grating chips reveal spectral images
In: Laser Focus World 44, No. 7, pp. 52-55 (2008)
17. H. Schenk, T. Sandner, C. Drabe, T. Klose, H. Conrad
Single crystal silicon micro mirrors
In: Phys. Status Solidi C 6, No. 3, pp. 728-735, DOI: 10.1002/pssc.200880714 (2009)
18. H. Conrad, T. Sandner, H. Schenk, H. Lakner
Eine »Reinkarnation« in der Strukturmechanik
In: CAD-CAM Report, No. 4, pp. 16-19 (2009)
19. C. Ataman, H. R. Seren, H. Schenk, H. Ürey
Dynamic characterization of MEMS scanners
In: Sensors & Transducers Journal, Vol. 108, No. 9, pp. 31-39 (2009)
20. M. Lenzhofer, A. Tortschanoff, A. Frank, T. Sandner, H. Schenk, M. Kraft, A. Kenda
MOEMS translatory actuator characterisation, position encoding and closed-loop control
In: Microsystem Technologies 16, No. 5, pp. 901-907, DOI: 10.1007/s00542-010-1029-5 (2010)
21. A. Tortschanoff, M. Lenzhofer, A. Frank, M. Wildenhain, T. Sandner, H. Schenk, A. Kenda
Position encoding and phase control of resonant MOEMS-mirrors
In: Sensors and Actuators A 162, pp. 235-240, DOI: 10.1016/j.proche.2009.07.328 (2010)
22. T. Sandner, T. Grasshoff, M. Schwarzenberg, R. Schroedter, H. Schenk
Quasistatic microscanner with linearized scanning for an adaptive three-dimensional laser camera
In: Journal of Micro/ Nanolithography, MEMS, and MOEMS, Vol. 13, No. 1, pp. 011114-1-11, DOI: 10.1117/1.JMM.13.1.011114 (2014)
23. T. Sandner, T. Grasshoff, E. Gaumont, H. Schenk, A. Kenda
Translatory MOEMS actuator and system integration for miniaturized Fourier transform spectrometers
In: Journal of Micro/ Nanolithography, MEMS, and MOEMS, Vol. 13, No. 1, 011115-1-14, DOI: 10.1117/1.JMM.13.1.011115 (2014)
24. H. Schenk, J. Grahmann, T. Sandner, M. Wagner, U. Dauderstädt, J.-U. Schmidt
Micro mirrors for high-speed laser deflections and patterning
In: Physics Procedia, invited paper, Vol. 56, pp. 7-18, DOI: 10.1016/j.phpro.2014.08.090 (2014)

25. B. Kaiser, T. Grasshoff, C. Drabe, H. Conrad, H. Schenk
About stress in filled DRIE-trenches
 In: Journal of Micromechanics and Microengineering (JMM), Vol. 25, No. 8, 085003, DOI: 10.1088/0960-1317/25/8/085003 (2015)
26. H. Conrad, H. Schenk, B. Kaiser, S. Langa, M. Gaudet, K. Schimmanz, M. Stolz, M. Lenz
A small-gap electrostatic micro-actuator for large deflections
 In: Nature Communications 6, 10078, DOI: 10.1038/ncomms10078 (2015)
27. Vl. Kolkovsky, R. Stübner, S. Langa, U. Wende, B. Kaiser, H. Conrad, H. Schenk
Influence of annealing in H atmosphere on the electrical properties of Al₂O₃ layers grown on p-type Si by the atomic layer deposition technique
 In: Solid-State Electronics 123, pp. 89-95, DOI: 10.1016/j.sse.2016.06.005 (2016)
28. H. Conrad, B. Kaiser, M. Gaudet, S. Langa, M. Stolz, S. Uhlig, K. Schimmanz, H. Schenk
A novel electrostatic actuator class
 In: Procedia Engineering, 168, pp. 1533-1536, DOI: 10.1016/j.proeng.2016.11.454 (2016)
29. S. Langa, H. Conrad, B. Kaiser, M. Stolz, M. Gaudet, S. Uhlig, K. Schimmanz, H. Schenk
Technological aspects of a new micro-electro-mechanical actuation principle: nano-e-drive
 In: Microsyst Technol, Vol. 23, Iss. 12, pp. 5697-5708, DOI: 10.1007/s00542-017-3360-6 (2017)
30. R. Borcia, M. Bestehorn, S. Uhlig, M. Gaudet, H. Schenk
Liquid pumping induced by transverse forced vibrations of an elastic beam: A lubrication approach
 In: Phys. Rev. Fluids, Vol. 3, Iss. 8, No. 084202, DOI: 10.1103/PhysRevFluids.3.084202 (2018)
31. S. Uhlig, M. Gaudet, S. Langa, K. Schimmanz, H. Conrad, B. Kaiser, H. Schenk
Electrostatically driven in-plane silicon micropump for modular configuration
 In: Micromachines, Vol. 9, No. 4, DOI: 10.3390/mi9040190 (2018)
32. B. Kaiser, S. Langa, L. Ehrig, M. Stolz, He. Schenk, H. Conrad, H. Schenk, K. Schimmanz, D. Schuffenhauer
Concept and proof for an all-silicon MEMS micro speaker utilizing air chambers
 In: Microsystems & Nanoengineering (Nature), Vol. 5, No. 43, DOI: 10.1038/s41378-019-0095-9 (2019)
33. J. M. Monsalve, A. Melnikov, B. Kaiser, D. Schuffenhauer, L. Ehrig, He. Schenk, H. Conrad, H. Schenk
Large-signal equivalent-circuit model of asymmetric electrostatic transducers
 In: IEEE/ASME Transactions on Mechatronics, DOI: 10.1109/TMECH.2021.3112267 (2021)
34. U. Dauderstädt, P. Dürr, A. Gehner, M. Wagner, H. Schenk
Analog Spatial Light Modulators based on Micromirror Arrays
 In: Micromachines, Special Issue "Beam Steering via Arrayed Micromachines", ISSN 2072-666X, Vol. 12, No. 5, DOI: 10.3390/mi12050483 (2021)
35. H. Schenk et. al.
Low Distortion Acoustic Transducers utilizing Electrostatic Push-Pull Bending Actuators
 In: Microsystems & Nanoengineering (2022), *submitted*
36. S. Uhlig, M. Gaudet, S. Langa, C. Ruffert, M. Jongmanns, H. Schenk
Highly integrable silicon micropumps using lateral electrostatic bending actuators
 In: Microfluidics and Nanofluidics (2022), *submitted*

Contributions to conferences and workshops

1. L. Worschech, C. Fischer, H. Schenk, W. Ossau, E. Kurtz, H. Schäfer, W. Faschinger, A. Waag, G. Landwehr
Linearly polarized luminescence associated with structural defects in MBE grown ZnSe
In: International Symposium on Blue Laser and Light Emitting Diodes, Chiba, Japan, 1996, Blue Laser and Light Emitting Diodes, xviii+580, pp. 421-424 (1996)
2. B. Jobst, S. Strauf, P. Bäume, E. Kurtz, H. Schenk, J. Gutowski, D. Hommel, G. Landwehr
Influence of the sulphur and magnesium content on donor-acceptor-pair emission in nitrogen-plasma doped ternary and quaternary $Zn_{1-x}Mg_xS_ySe_{1-y}$
In: International Symposium on Blue Laser and Light Emitting Diodes, Chiba, Japan, 1996, Blue Laser and Light Emitting Diodes, xviii+580, pp. 409-412 (1996)
3. J. Linsmeier, K. Wüst, H. Schenk, U. Hilpert, W. Ossau, J. Fricke, R. Arens-Fischer
Chemical surface modification of porous silicon using tetraethoxysilane
In: E-MRS Spring Conference, Symposium L: New Developments in Porous Silicon: Relation with other Nanostructured Porous Materials, Strasbourg, France, 1996, Thin Solid Films, Vol. 297/1-2, pp. 26-30, DOI: 10.1016/S0040-6090(96)09360-1 (1997)
4. H. Schenk, P. Dürr, H. Kück
A novel electrostatically driven torsional actuator
In: International Conference on Micro Opto Electro Mechanical Systems, Mainz, Germany, 1999, pp. 3-10 (1999)
5. H. Lakner, W. Doleschal, P. Dürr, A. Gehner, H. Schenk, A. Wolter, G. Zimmer
Micromirrors for direct writing systems and scanners
In: SPIE Conference: Miniaturized Systems with Micro-optics and MEMS, Santa Clara, USA, 1999, Proc. SPIE 3878, pp. 217-227, DOI: 10.1117/12.361264 (1999)
6. H. Schenk, P. Dürr, D. Kunze, H. Kück
A new driving principle for micromechanical torsional actuators
In: International Mechanical Engineering Congress & Exhibition, Nashville, USA, 1999, Micro-Electro-Mechanical Systems (MEMS), Proc. MEMS, Vol. 1, pp. 333-338 (1999)
7. H. Schenk, P. Dürr, D. Kunze, H. Lakner, H. Kück
An electrostatically excited 2D-micro-scanning-mirror with an in-plane configuration of the driving electrodes
In: International Conference on Micro Electro Mechanical Systems, Miyazaki, Japan, 2000, Proc. MEMS, pp. 473-478, DOI: 10.1109/MEMSYS.2000.838563 (2000)
8. H. Schenk, P. Dürr, D. Kunze, H. Lakner, H. Kück
Design and modelling of large deflection micromechanical 1D- and 2D-scanning-mirrors
In: SPIE Conference: MOEMS and miniaturized Systems, Santa Clara, USA, 2000, Proc. SPIE 4178, pp. 116-125, DOI: 10.1117/12.396479 (2000)
9. H. Schenk, A. Wolter, H. Lakner
Design optimization of an electrostatically driven micro scanning mirror
In: SPIE Conference: MOEMS and miniaturized Systems II, San Francisco, USA, 2000, Proc. SPIE 4561, pp. 35-44, DOI: 10.1117/12.443106 (2001)
10. E. Gaumont, A. Wolter, H. Schenk, G. Georgelin, M. Schmoger
Mechanical and electrical failures and reliability of Micro Scanning Mirrors
In: International Symposium on the Physical and Failure Analysis of Integrated Circuits, Singapore, 2002, Proc. IPFA, pp. 212-217, DOI: 10.1109/IPFA.2002.1025665 (2002)

11. H. Lakner, P. Dürr, H. Schenk, A. Gehner
Mustererzeugung und -erfassung mit mikromechanischen Spiegeln und Spiegelarrays
 In: VDE-Kongress NetWorlds: Leben in vernetzten Welten, Dresden, Germany, 2002, Vol. 2, pp. 141-146 (2002)
12. A. Wolter, H. Schenk, E. Gaumont, H. Lakner
Improved layout for a resonant 2D micro scanning mirror with low operation voltages
 In: SPIE Conference: MOEMS Display and Imaging Systems, San Jose, USA, 2003, Proc. SPIE 4985, pp. 72-82, DOI: 10.1117/12.472863 (2003)
13. K.-U. Roscher, U. Fakesch, H. Schenk, H. Lakner, D. Schlebusch
Driver ASIC for synchronized excitation of resonant micro mirrors
 In: SPIE Conference: MOEMS Display and Imaging Systems, San Jose, USA, 2003, Proc. SPIE 4985, pp. 121-130, DOI: 10.1117/12.477810 (2003)
14. H. Grüger, A. Wolter, T. Schuster, H. Schenk, H. Lakner
Realization of a spectrometer with micromachined scanning grating
 In: SPIE Conference: MEMS/ MOEMS: Advances in Photonic Communications, Sensing, Metrology, Packaging and Assembly, Bruges, Belgium, 2002, Proc. SPIE 4945, pp. 46-53, DOI: 10.1117/12.471993 (2003)
15. H. Grüger, A. Wolter, T. Schuster, H. Schenk, H. Lakner
Performance and applications of a spectrometer with micromachined scanning grating
 In: SPIE Conference: Integrated Optics: Devices, Materials, and Technologies VII, San Jose, USA, 2003, Proc. SPIE 4987, pp. 284-291, DOI: 10.1117/12.478317 (2003)
16. P. Dürr, U. Dauderstädt, D. Kunze, M. Auvert, T. Bakke, H. Schenk, H. Lakner
Characterization of spatial light modulators for micro lithography
 In: SPIE Conference: MOEMS Display and Imaging Systems, San Jose, USA, 2003, Proc. SPIE 4985, pp. 204-214, DOI: 10.1117/12.477803 (2003)
17. A. Gehner, M. Wildenhain, W. Doleschal, A. Elgner, H. Schenk, H. Lakner
Improved vision by eye aberration correction using an active-matrix-addressed micromirror array
 In: SPIE Conference: MOEMS and Miniaturized Systems III, San Jose, USA, 2003, Proc. SPIE 4983, pp. 235-247, DOI: 10.1117/12.472902 (2003)
18. S. Manhart, H. Schenk, M. Kiening, L. Marchand
Reliability assessment and lifetime testing with micro-mirrors
 In: 4th Round Table on Micro/ Nano Technologies for Space, ESTEC, Noordwijk, The Netherlands, 2003 (2003)
19. A. Wolter, H. Korth, H. Schenk, H. Lakner
Temperature stability of the frequency of a resonant micro scanning mirror
 In: IEEE/ LEOS Conference: International Conference on Optical MEMS, Waikoloa/Hawaii, USA, 2003, pp. 55-56, DOI: 10.1109/OMEMS.2003.1233464 (2003)
20. H. Schenk, U. Dauderstädt, A. Gehner, A. Wolter, H. Grüger, C. Drabe, H. Lakner
Photonic Microsystems: An enabling technology for light deflection and modulation
 In: SPIE Conference: MOEMS Display and Imaging Systems II, San Jose, USA, 2004, invited paper, Proc. SPIE 5348, pp. 7-21, DOI: 10.1117/12.523948 (2004)
21. C. Drabe, H. Schenk, K.-U. Roscher, D. Kunze, H. Lakner
Accelerometer by means of a Resonant Micro Actuator
 In: SPIE Conference: MEMS/ MOEMS Components and Their Applications, San Jose, USA, 2004, Proc. SPIE 5344, pp. 124-133, DOI: 10.1117/12.524130 (2004)

22. A. Wolter, H. Schenk, H. Korth, H. Lakner
Torsional stress, fatigue and fracture strength in silicon hinges of a micro scanning mirror
 In: SPIE Conference: Reliability, Testing, and Characterization of MEMS/ MOEMS III, San Jose, USA, 2004, Proc. SPIE 5343, pp. 176-185, DOI: 10.1117/12.524872 (2004)
23. A. Kenda, W. Scherf, R. Hauser, H. Grüger, H. Schenk
A compact spectrometer based on a micromachined torsional mirror device
 In: IEEE Conference: International Conference on Sensors, Vienna, Austria, 2004, Proc. IEEE Vol. 3, pp. 1312-1315, DOI: 10.1109/ICSENS.2004.1426423 (2004)
24. T. Kiessling, A. Wolter, H. Schenk, H. Lakner
Bulk micro machined quasistatic torsional micro mirror
 In: SPIE Conference on MOEMS and Miniaturized Systems IV, San Jose, USA, 2004, Proc. SPIE 5346, pp. 193-202, DOI: 10.1117/12.530717 (2004)
25. A. Wolter, H. Schenk, E. Gaumont, H. Lakner
MEMS microscanning mirror for barcode reading: from development to production
 In: SPIE Conference: MOEMS Display and Imaging Systems II, San Jose, USA, 2004, Proc. SPIE 5348, pp. 32-39, DOI: 10.1117/12.530795 (2004)
26. U. Dauderstädt, P. Dürr, T. Karlin, H. Schenk, H. Lakner
Application of spatial light modulators for microlithography
 In: SPIE Conference: MOEMS Display and Imaging Systems II, San Jose, USA, 2004, Proc. SPIE 5348, pp. 119-126, DOI: 10.1117/12.528798 (2004)
27. K.-U. Roscher, H. Grätz, H. Schenk, A. Wolter, H. Lakner
Low cost projection device with a 2-dimensional resonant micro scanning mirror
 In: SPIE Conference: MOEMS Display and Imaging Systems II, San Jose, USA, 2004, Proc. SPIE 5348, pp. 22-31, DOI: 10.1117/12.530860 (2004)
28. J. Schreiber, S. Braun, A. Gatto, H. Schenk
Improved mechanical properties of metallic micro-structures
 In: SPIE Conference: Testing, Reliability, and Application of Micro- and Nano-Material Systems II, San Diego, USA, 2004, Proc. SPIE 5392, pp. 114-122, DOI: 10.1117/12.541312 (2004)
29. K.-U. Roscher, H. Grätz, H. Schenk, A. Wolter, H. Lakner
Laser projection device based on a 2D resonant micro scanning mirror
 In: 19. Electronic Displays 2004. CD-ROM: Bildschirme und Anzeigesysteme, ihre Bauelemente und Baugruppen, Wiesbaden, Germany (2004)
30. D. Schlebusch, G. Bunk, U. Vogel, H. Schenk, K.-U. Roscher
Analogue components for a mixed signal driver ASIC for resonant micro-mirror control
 In: International Conference for Optical Technologies, Optical Sensors and Measuring Techniques and IRS2, International Conference for Infrared Sensors and Systems, Nuremberg, Germany, 2004, Proc. OPTO, pp. 35-40 (2004)
31. T. Sandner, T. Klose, A. Wolter, H. Schenk, H. Lakner, W. Davis
Damping analysis and measurement for a comb-drive scanning mirror
 In: SPIE Conference: MEMS, MOEMS, and Micromachining, Strasbourg, France, 2004, Proc. SPIE 5455, pp. 147-158, DOI: 10.1117/12.550529 (2004)
32. A. Wolter, E. Gaumont, H. Korth, H. Schenk, H. Lakner
Fabrication end- test of the micro scanning mirror
 In: SPIE Conference: MEMS, MOEMS, and Micromachining, Strasbourg, France, 2004, Proc. SPIE 5455, pp. 54-65, DOI: 10.1117/12.545247 (2004)

33. F. Zimmer, H. Grüger, A. Heberer, A. Wolter, H. Schenk
Development of a NIR micro spectrometer based on a MOEMS scanning grating
 In: SPIE Conference: MEMS, MOEMS, and Micromachining, Strasbourg, France, 2004, Proc. SPIE 5455, pp. 9-18, DOI: 10.1117/12.544638 (2004)
34. H. Schenk, P. Dürr, U. Dauderstädt, A. Gehner, A. Wolter, H. Lakner
Light processing with electrostatically driven micro scanning mirrors and micro mirror arrays
 In: MicroNano Integration, Berlin, Germany, 2004, pp. 89-96 (VDI book), DOI: 10.1007/978-3-642-18727-8_13 (2004)
35. A. Wolter, A. Herrmann, G. Yildiz, H. Schenk, H. Lakner
Designing MEMS for manufacturing
 In: SPIE Conference: Optomechatronic Micro/Nano Components, Devices, and Systems, Philadelphia, USA, 2004, Proc. SPIE 5604, pp. 74-85, DOI: 10.1117/12.580902 (2004)
36. A. Wolter, S.-T. Hsu, H. Schenk, H. Lakner
Applications and requirements for MEMS scanner mirrors
 In: SPIE Conference: MOEMS and Miniaturized Systems V, San Jose, USA, 2005, Proc. SPIE 5719, pp. 64-75, DOI: 10.1117/12.600076 (2005)
37. T. Sandner, J.-U. Schmidt, H. Schenk, H. Lakner, S. Braun, T. Foltyn, A. Leson, A. Gatto, M. Yang, N. Kaiser
Micromechanical scanning mirrors with highly reflective NIR coatings for high power applications
 In: SPIE Conference: MOEMS Display and Imaging Systems III, San Jose, USA, 2005, Proc. SPIE 5721, pp. 34-42, DOI: 10.1117/12.590448 (2005)
38. T. Sandner, J.-U. Schmidt, H. Schenk, H. Lakner, A. Gatto, M. Yang, N. Kaiser, S. Braun, T. Foltyn, A. Leson
Highly reflective coatings for micromechanical mirror arrays operating in the DUV and VUV spectral range
 In: SPIE Conference: MOEMS Display and Imaging Systems III, San Jose, USA, 2005, Proc. SPIE 5721, pp. 72-80, DOI: 10.1117/12.590522 (2005)
39. U. Dauderstädt, P. Dürr, U. Ljungblad, T. Karlin, H. Schenk, H. Lakner
Mechanical stability of spatial light modulators in microlithography
 In: SPIE Conference: MOEMS Display and Imaging Systems III, San Jose, USA, 2005, Proc. SPIE 5721, pp. 64-71, DOI: 10.1117/12.590082 (2005)
40. U. Künzelmann, M. Wagner, H. Schenk, H. Lakner
High surface planarity die bonding of large optical chips
 In: IEEE Conference: International Conference on Polymers and Adhesives in Microelectronics and Photonics, Wroclaw, Poland, 2005, Proc. IEEE, pp. 117-122, DOI: 10.1109/POLYTR.2005.1596499 (2005)
41. M. Scholles, A. Bräuer, K. Frommhagen, C. Gerwig, B. Höfer, E. Jung, H. Lakner, H. Schenk, B. Schneider, P. Schreiber, A. Wolter
Miniaturized optical module for projection of arbitrary images based on two-dimensional resonant micro scanning mirrors
 In: SPIE Conference: Optical Scanning, San Diego, USA, 2005, Proc. SPIE 5873, pp. 72-83, DOI: 10.1117/12.616779 (2005)
42. F. Zimmer, H. Grüger, A. Heberer, T. Sandner, A. Wolter, H. Schenk
Scanning micro-mirrors: From bar-code-scanning to spectroscopy
 In: SPIE Conference: Optical Scanning, San Diego, USA, 2005, Proc. SPIE 5873, pp. 84-94, DOI: 10.1117/12.614895 (2005)

43. H. Grüger, A. Heberer, F. Zimmer, A. Wolter, H. Schenk
Miniaturized MOEMS spectrometer for NIR applications
 In: SPIE Conference: Optomechanics, San Diego, USA, 2005, Proc. SPIE 5877, DOI: 10.1117/12.614750 (2005)
44. A. Gehner, M. Wildenhain, H. Neumann, A. Elgner, H. Schenk
MEMS phase former kit for high-resolution wavefront control
 In: SPIE Conference: Advanced Wavefront Control: Methods, Devices, and Applications III, San Diego, USA, 2005, Proc. SPIE 5894, DOI: 10.1117/12.618326 (2005)
45. T. Sandner, J.-U. Schmidt, H. Schenk, H. Lakner, M. Yang, A. Gatto, N. Kaiser, S. Braun, T. Foltyn, A. Leason
Highly reflective thin film coatings for high power applications of micro scanning mirrors in the NIR-VIS-UV spectral region
 In: SPIE Conference: Advances in Optical Thin Films II, Jena, Germany, 2005, Proc. SPIE 5963, DOI: 10.1117/12.625246 (2005)
46. A. Heberer, H. Grüger, F. Zimmer, H. Schenk, A. Kenda, A. Frank, W. Scherf
Signal processing for a single detector MOEMS based NIR micro spectrometer
 In: SPIE Conference: Detectors and Associated Signal Processing II, Jena, Germany, 2005, Proc. SPIE 5964, DOI: 10.1117/12.624990 (2005)
47. T. Bakke, M. Friedrichs, B. Völker, M. Reiche, L. Leonardsson, H. Schenk, H. Lakner
Spatial light modulators with monocrystalline silicon micromirrors made by wafer bonding
 In: SPIE Conference: Micromachining and Microfabrication Process Technology X, San Jose, USA, 2005, Proc. SPIE 5715, pp. 69-79, DOI: 10.1117/12.590567 (2005)
48. H. Grüger, H. Schenk, A. Heberer, F. Zimmer, W. Scherf, A. Kenda, A. Frank
New MOEMS based systems appropriate for spectroscopic investigations on agricultural growth and perishable food conditions
 In: SPIE Conference: Optical Sensors and Sensing Systems for Natural Resources and Food Safety and Quality, Boston, USA, 2005, Proc. SPIE 5996, DOI: 10.1117/12.630143 (2005)
49. H. Schenk, H. Grüger, F. Zimmer, W. Scherf, A. Kenda
Optical MEMS for advanced spectrometers
 In: IEEE Conference: Optical MEMS and their Applications Conference, Oulo, Finland, 2005, invited paper, Proc. IEEE, pp. 117-118, DOI: 10.1109/OMEMS.2005.1540106 (2005)
50. T. Bakke, B. Völker, H. Schenk, I. Radu, M. Reiche
Wafer bonding for optical MEMS
 In: International Symposium on Semiconductor Wafer Bonding VIII: Science and Technology, and Applications, Quebec City, Canada, 2005, Proc. 2005-02, pp. 184-193 (2005)
51. H. Schenk, T. Sandner, H. Lakner
Micro optical devices for light modulation and deflection
 In: MikroSystemTechnik-Kongress, Freiburg, Germany, 2005, VDE-Verlag, pp. 179-182 (2005)
52. T. Klose, D. Kunze, T. Sandner, H. Schenk, H. Lakner, A. Schneider, P. Schneider
Stress optimization of a micromechanical torsional spring
 In: NSTI Nanotechnology Conference and Trade Show, Anaheim (CA), USA, 2005, Vol. 3, pp. 602-605 (2005)
53. M. Yang, A. Gatto, N. Kaiser, J.-U. Schmidt, T. Sandner, J. Heber, H. Schenk, H. Lakner
VUV optical coatings for the next-generation micro-mechanical mirrors
 In: SPIE Conference: Advances in Optical Thin Films II, Jena, Germany, 2005, Proc. SPIE 5963, DOI: 10.1117/12.625138 (2005)

54. L. Trabzon, K. Lukat, I. Jankowski, P. Dürr, H. Schenk
Measurement of charging under DUV laser by a test chip for MOEMS and the mechanism of charging
 In: Proc. of the 6th euspen International Conference, Baden, Austria, 2006, pp. 66-69 (2006)
55. T. Bakke, B. Völker, D. Rudloff, M. Friedrichs, H. Schenk, H. Lakner
Large-scale drift-free monocrystalline silicon micromirror arrays made by wafer bonding
 In: SPIE Conference: MOEMS Display, Imaging, and Miniaturized Microsystems IV, San Jose, USA, 2006, Proc. SPIE 6114, DOI: 10.1117/12.646182 (2006)
56. M. Wagner, U. Künzelmann, H. Schenk, H. Lakner
Global flatness of spatial light modulators
 In: SPIE Conference: MOEMS Display, Imaging, and Miniaturized Microsystems IV, San Jose, USA, 2006, Proc. SPIE 6114, DOI: 10.1117/12.644580 (2006)
57. F. Zimmer, H. Grüger, A. Heberer, T. Sandner, H. Schenk, H. Lakner, A. Kenda, W. Scherf
Development of high-efficient NIR-scanning gratings for spectroscopic applications
 In: SPIE Conference: MOEMS Display, Imaging, and Miniaturized Microsystems IV, San Jose, USA, 2006, Proc. SPIE 6114, DOI: 10.1117/12.644481 (2006)
58. T. Sandner, J.-U. Schmidt, H. Schenk, H. Lakner, M. Yang, A. Gatto, N. Kaiser, S. Braun, T. Foltyn, A. Leson
Highly reflective optical coatings for high-power applications of micro scanning mirrors in the UV-VIS/NIR spectral region
 In: SPIE Conference: MOEMS Display, Imaging, and Miniaturized Microsystems IV, San Jose, USA, 2006, Proc. SPIE 6114, DOI: 10.1117/12.644626 (2006)
59. T. Klose, T. Sandner, H. Schenk, H. Lakner
Extended damping model for out-of-plane comb driven micromirrors
 In: SPIE Conference: MOEMS Display, Imaging, and Miniaturized Microsystems IV, San Jose, USA, 2006, Proc. SPIE 6114, DOI: 10.1117/12.645981 (2006)
60. A. Wolter, T. Klose, S.-T. Hsu, H. Schenk, H. Lakner
Scanning 2D micromirror with enhanced flatness at high frequency
 In: SPIE Conference: MOEMS Display, Imaging, and Miniaturized Microsystems IV, San Jose, USA, 2006, Proc. SPIE 6114, DOI: 10.1117/12.654478 (2006)
61. A. Kenda, C. Drabe, H. Schenk, A. Frank, M. Lenzhofer, W. Scherf
Application of a micromachined translatory actuator to an optical FTIR spectrometer
 In: SPIE Conference: MEMS, MOEMS, and Micromachining II, Strasbourg, France, 2006, Proc. SPIE 6186, DOI: 10.1117/12.662008 (2006)
62. C. Drabe, T. Klose, H. Schenk, A. Wolter, H. Lakner
A large deflection translatory actuator for optical path length modulation
 In: SPIE Conference: MEMS, MOEMS, and Micromachining II, Strasbourg, France, 2006, Proc. SPIE 6186, DOI: 10.1117/12.662853 (2006)
63. D. Schlebusch, G. Bunk, H. Schenk, K.-U. Roscher, U. Vogel
Analoge Schaltungskomponenten eines Treiber-ASICs für resonante Mikrospiegel
 In: Fachtagung Entwicklung von Anlogschaltungen mit CAE-Methoden, Dresden, Germany, 2006, ITG-Fachbericht, Vol. 196, pp. 185-189 (2006)
64. M. Scholles, A. Bräuer, K. Frommhagen, C. Gerwig, B. Höfer, H. Lakner, H. Schenk, M. Schwarzenberg
Design of miniaturized optoelectronic systems using resonant micro scanning mirrors for projection of full-color images
 In: SPIE Conference: Current Developments in Lens Design and Optical Engineering VII, San Diego, USA, 2006, Proc. SPIE 6288, DOI: 10.1117/12.680317 (2006)

65. T. Sandner, A. Kenda, C. Drabe, H. Schenk, W. Scherf
Miniaturized FTIR-spectrometer based on an optical MEMS translatory actuator
 In: SPIE Conference: MOEMS and Miniaturized Systems VI, San Jose, USA, 2007, Proc. SPIE 6466, DOI: 10.1117/12.697898 (2007)
66. M. Scholles, A. Bräuer, K. Frommhagen, C. Gerwig, H. Lakner, H. Schenk, M. Schwarzenberg
Ultra-compact laser projection systems based on two-dimensional resonant micro scanning mirrors
 In: SPIE Conference: MOEMS and Miniaturized Systems VI, San Jose, USA, 2007, Proc. SPIE 6466, DOI: 10.1117/1.2911643 (2007)
67. S.-T. Hsu, A. Wolter, W.-D. Owe, H. Schenk
Fracture strength of SOI springs in MEMS micromirrors
 In: SPIE Conference: MOEMS and Miniaturized Systems VI, San Jose, USA, 2007, Proc. SPIE 6466, DOI: 10.1117/12.698933 (2007)
68. C. Drabe, T. Klose, A. Wolter, H. Schenk, R. James, H. Lakner
A new micro laser camera
 In: SPIE Conference: MOEMS and Miniaturized Systems VI, San Jose, USA, 2007, Proc. SPIE 6466, DOI: 10.1117/12.700360 (2007)
69. F. Zimmer, A. Heberer, T. Sandner, H. Grüger, H. Schenk, H. Lakner A. Kenda, W. Scherf
Investigation and characterization of high-efficient NIR-scanning gratings used in NIR-micro-spectrometer
 In: SPIE Conference: MOEMS and Miniaturized Systems VI, San Jose, 2007, USA, Proc. SPIE 6466, DOI: 10.1117/12.701821 (2007)
70. T. Egloff, H. Grüger, F. Zimmer, H. Schenk, M. Scholles, H. Lakner
NIR hyperspectral imaging using MOEMS scanning grating chips and linear detector array
 In: SPIE Conference: Next-Generation Spectroscopic Technologies, Boston, USA, 2007, Proc. SPIE Vol. 6765, DOI: 10.1117/12.734016 (2007)
71. T. Sandner, H. Conrad, T. Klose, H. Schenk
Integrated piezo-resistive positionsensor for microscanning mirrors
 In: IEEE/ LEOS Conference: International Conference on Optical MEMS and Nanophotonics, Hualien, Taiwan, 2007, Proc. IEEE, pp. 195-196, DOI: 10.1109/OMEMS.2007.4373907 (2007)
72. S.-T. Hsu, T. Klose, C. Drabe, A. Wolter, H. Schenk
Ultra flat high resolution microscanners
 In: IEEE/ LEOS Conference: International Conference on Optical MEMS and Nanophotonics, Hualien, Taiwan, 2007, Proc. IEEE, pp. 197-198, DOI: 10.1109/OMEMS.2007.4373908 (2007)
73. T. Sandner, H. Schenk, H. Lakner, A. Kenda, W. Scherf
Einsatz translatorischer MOEMS-Aktoren für FTIR-Spektrometer
 In: MikroSystemTechnik-Kongress, Dresden, Germany, 2007, VDE-Verlag, pp. 485-488 (2007)
74. F. Zimmer, H. Grüger, A. Heberer, T. Sandner, H. Schenk, H. Lakner
NIR-Spektroskopie: Entwicklung eines miniaturisierten MOEMS Spektrometers für den Einsatz im NIR-Bereich
 In: MikroSystemTechnik-Kongress, Dresden, Germany, 2007, VDE-Verlag, pp. 497-500 (2007)
75. H. Schenk, C. Drabe, T. Klose, A. Wolter, H. Lakner
2D-Mikroscanner mit hoher Auslenkung zur Bildaufnahme
 In: MikroSystemTechnik-Kongress, Dresden, Germany, 2007, VDE-Verlag, pp. 509-512 (2007)

76. T. Klose, A. Wolter, T. Sandner, H. Schenk
Optimierung der dynamischen Deformation von Mikroscoanerspiegeln
In: MikroSystemTechnik-Kongress, Dresden, Germany, 2007, VDE-Verlag, pp. 1015-1018 (2007)
77. M. Scholles, K. Frommhagen, C. Gerwig, H. Lakner, H. Schenk, M. Schwarzenberg, A. Bräuer
Miniaturisierte Laserprojektionssysteme basierend auf zweidimensionalen resonanten Mikroscoanerspiegeln
In: MikroSystemTechnik-Kongress, Dresden, Germany, 2007, VDE-Verlag, pp. 1025-1028 (2007)
78. T. Egloff, H. Grüger, F. Zimmer, H. Schenk, M. Scholles, H. Lakner
Neuartiger MST Ansatz zur Realisierung kostengünstiger Systeme zum „Hyperspectral Imaging“ im NIR
In: MikroSystemTechnik-Kongress, Dresden, Germany, 2007, VDE-Verlag, pp. 1045-1048 (2007)
79. H. Grüger, M. Scholles, H. Schenk, H. Lakner
Tilt compensated laser projection system for handheld devices with motion compensation and input device function
In: International Display Workshops, Sapporo, Japan, 2007, Proc. IDW, Vol. 2, pp. 1329-1332 (2007)
80. S.-T. Hsu, T. Klose, C. Drabe, H. Schenk
Two dimensional microscanners with large horizontal-vertical scanning frequency ratio for high-resolution laser projectors
In: SPIE Conference: MOEMS and Miniaturized Systems VII, San Jose, USA, 2008, Proc. SPIE 6887, DOI: 10.1117/12.761617 (2008)
81. H. Grüger, T. Egloff, M. Scholles, F. Zimmer, M. Müller, H. Schenk
Pushbroom NIR hyperspectral imager using MOEMS scanning grating chips
In: SPIE Conference: MOEMS and Miniaturized Systems VII, San Jose, USA, 2008, Proc. SPIE 6887, DOI: 10.1117/12.762904 (2008)
82. H. Grüger, J. Knobbe, M. Scholles, H. Schenk, H. Lakner
New approach for MEMS scanning mirror for laser projection systems
In: SPIE Conference: MOEMS and Miniaturized Systems VII, San Jose, USA, 2008, Proc. SPIE 6887, DOI: 10.1117/12.761531 (2008)
83. T. Sandner, C. Drabe, H. Schenk, A. Kenda, W. Scherf
Miniaturized FTIR-spectrometer based on optical MEMS translatory actuator
In: Workshop Optical Spectrometer: Design, Technology, Application and Trend, Jena, Germany, DOI: 10.1117/12.697898 (2008)
84. D. Jung, T. Klose, T. Grasshoff, T. Sandner, H. Schenk, H. Lakner
3D hybrid capacitance model for angular vertical comb drives
In: Electronics System-Integration Technology Conference, Greenwich, UK, 2008, Proc. ESTC, Vol. 1, pp. 541-546, DOI: 10.1109/ESTC.2008.4684407 (2008)
85. H. Conrad, T. Klose, T. Sandner, H. Schenk, H. Lakner
Actuating methods of quasistatic micromirrors for active focus variation
In: International Students and Young Scientists Workshop “Photonics and Microsystems”, Wroclaw, Poland, pp. 7-11, DOI: 10.1109/STYSW.2008.5164131 (2008)
86. H. Schenk, M. Wagner, A. Gehner, M. Müller, T. Sandner, C. Drabe, H. Lakner
Silicon-based micro-optic modulators
In: MicroMechanics Europe Workshop, Aachen, Germany, pp. 3-11 (2008)
87. H. Conrad, T. Klose, T. Sandner, D. Jung, H. Schenk, H. Lakner
Modelling the thermally induced curvature of multilayer coatings with COMSOL multiphysics
In: COMSOL Conference, Hannover, Germany, 2008, Proc. COMSOL, CD-ROM (2008)

88. T. Klose, H. Conrad, T. Sandner, H. Schenk
Fluidmechanical damping analysis of resonant micromirrors with out-of-plane comb drive
In: COMSOL Conference, Hannover, Germany, 2008, Proc. COMSOL, CD-ROM (2008)
89. T. Sandner, M. Wildenhain, T. Klose, H. Schenk, S. Schwarzer, V. Hinkov, H. Höfler, H. Wölfelschneider
3D imaging using resonant large-aperture MEMS mirror arrays and laser distance measurement
In: IEEE/ LEOS Conference: International Conference on Optical MEMS and Nanophotonics, Freiburg, Germany, 2008, Proc. IEEE, pp. 78-79, DOI: 10.1109/OMEMS.2008.4607837 (2008)
90. M. Kraft, A. Kenda, T. Sandner, H. Schenk
MEMS-based compact FT-spectrometers – A platform for spectroscopic mid-infrared sensors
In: IEEE Conference: Sensors, Lecce, Italy, 2008, Proc. IEEE, pp. 130-133, DOI: 10.1109/ICSENS.2008.4716400 (2008)
91. F. Zimmer, M. Friedrichs, M. Lapisa, F. Niklaus, M. Müller, T. Bakke, H. Schenk, H. Lakner
The integration of mono-crystalline silicon micro-mirrors on CMOS for SLM applications
In: International Conference on Multi-Material Micro Manufacture, Cardiff, UK, 2008, pp. 35-38 (2008)
92. J. Grahmann, H. Conrad, T. Sandner, T. Klose, H. Schenk
Integrated position sensing for 2D microscanning mirrors using the SOI-device layer as the piezoresistive mechanical-elastic transformer
In: SPIE Conference: MOEMS and Miniaturized Systems VIII, San Jose, USA, 2009, Proc. SPIE 7208, DOI: 10.1117/12.808151 (2009)
93. F. Zimmer, F. Niklaus, M. Lapisa, T. Ludewig, M. Bring, M. Friedrichs, T. Bakke, H. Schenk, W. van der Wijngaart
Fabrication of large-scale mono-crystalline silicon micro-mirror arrays using adhesive wafer transfer bonding
In: SPIE Conference: MOEMS and Miniaturized Systems VIII, San Jose, USA, 2009, Proc. SPIE 7208, DOI: 10.1117/12.808694 (2009)
94. D. Jung, D. Kallweit, T. Sandner, H. Conrad, H. Schenk, H. Lakner
Fabrication of 3D comb drive microscanners by mechanically induced permanent displacement
In: SPIE Conference: MOEMS and Miniaturized Systems VIII, San Jose, USA, 2009, Proc. SPIE 7208, DOI: 10.1117/12.808210 (2009)
95. H. Grüger, J. Knobbe, T. Egloff, M. Althaus, M. Scholles, H. Schenk
Scanning photon microscope based on a MEMS 2D scanner mirror
In: SPIE Conference: MOEMS and Miniaturized Systems VIII, San Jose, USA, 2009, Proc. SPIE 7208, DOI: 10.1117/12.808139 (2009)
96. H. Schenk
The high versatility of silicon based micro-optical modulators
In: SPIE Conference: MOEMS and Miniaturized Systems VIII, San Jose, USA, 2009, plenary paper, Proc. SPIE 7208, DOI: 10.1117/12.828322 (2009)
97. T. Sandner, T. Grasshoff, T. Klose, H. Schenk, J. L. Massieu
MEMS based laser imager with diagonal progressive scanning
In: IEEE Conference: International Conference on Micro Electro Mechanical Systems, Sorrento, Italy, 2009, Proc. IEEE, pp. 951-954, DOI: 10.1109/MEMSYS.2009.4805542 (2009)

98. T. Sandner, C. Drabe, H. Schenk, A. Kenda
Large stroke MOEMS actuators for optical path length modulation in miniaturized FTIR-spectrometers
 In: SPIE Conference: Next-Generation Spectroscopic Technologies II, Orlando, USA, Proc. SPIE 7319, DOI: 10.1117/12.818605 (2009)
99. H. Grüger, T. Egloff, T. Pügner, M. Scholles, H. Schenk, H. Lakner
Diffraction MEMS components, systems and applications
 In: SPIE Conference: Next-Generation Spectroscopic Technologies II, Orlando, USA, Proc. SPIE 7319, DOI: 10.1117/12.818465 (2009)
100. A. Tortschanoff, A. Kenda, M. Kraft, T. Sandner, H. Schenk, W. Scherf
Improved MOEMS based ultra rapid Fourier transform infrared spectrometer
 In: SPIE Conference: Next-Generation Spectroscopic Technologies II, Orlando, USA, Proc. SPIE 7319, DOI: 10.1117/12.818646 (2009)
101. H. Conrad, J.-U. Schmidt, W. Pufe, F. Zimmer, T. Sandner, H. Schenk, H. Lakner
Aluminum nitride – A promising and full CMOS compatible piezoelectric material for MOEMS applications
 In: SPIE Conference: Smart Sensors, Actuators and MEMS IV, Dresden, Germany, Proc. SPIE 7362, DOI: 10.1117/12.821715 (2009)
102. M. Lenzhofer, A. Tortschanoff, A. Frank, T. Sandner, H. Schenk, M. Kraft, A. Kenda
Position encoding and closed loop control of MOEMS translatory actuators
 In: SPIE Conference: Smart Sensors, Actuators and MEMS IV, Dresden, Germany, 2009, Proc. SPIE 7362, DOI: 10.1117/12.821715 (2009)
103. H. Schenk, T. Sandner, C. Drabe, M. Scholles, K. Frommhagen, C. Gerwig, H. Lakner
Ultra compact laser based projectors and imagers
 In: J.A. Jacko (Ed.): Human-Computer Interaction, Part III, HCII 2009, LNCS 5612, Springer-Verlag Berlin Heidelberg, pp. 501-510, DOI: 10.1007/978-3-642-02580-8_55 (2009)
104. A. Tortschanoff, M. Lenzhofer, A. Frank, A. Kenda, T. Sandner, H. Schenk
Improved MEMS based FT-IR spectrometer: Position encoding and closed loop control
 In: IEEE Conference: International Symposium on Optomechatronic Technologies, Istanbul, Turkey, 2009, Proc. IEEE, pp. 116-121, DOI: 10.1109/ISOT.2009.5326109 (2009)
105. A. Kenda, A. Frank, M. Kraft, A. Tortschanoff, T. Sandner, H. Schenk, W. Scherf
Compact high-speed spectrometers based on MEMS devices with large amplitude in-plane actuators
 In: Procedia Chemistry, Proc. of Eurosensors XXIII, Vol. 1, pp. 556-559, DOI: 10.1016/j.proche.2009.07.139 (2009)
106. A. Kenda, A. Frank, M. Kraft, A. Tortschanoff, T. Sandner, H. Schenk, W. Scherf
MOEMS-based scanning light barrier
 In: Procedia Chemistry, Proc. Eurosensors XXIII, Vol. 1, pp. 1299-1302, DOI: 10.1016/j.proche.2009.07.324 (2009)
107. A. Tortschanoff, M. Lenzhofer, A. Frank, M. Wildenhain, T. Sandner, H. Schenk, A. Kenda
Position encoding and phase control of resonant MOEMS-mirrors
 In: Procedia Chemistry, Proc. Eurosensors XXIII, Vol. 1, pp. 1315-1318, DOI: 10.1016/j.proche.2009.07.328 (2009)
108. C. Drabe, R. James, H. Schenk, T. Sandner
MEMS-Devices for laser camera systems for endoscopic applications
 In: SPIE Conference: MOEMS and Miniaturized Systems IX, San Francisco, USA, 2010, Proc. SPIE 7594, DOI: 10.1117/12.846855 (2010)

109. T. Sandner, T. Grasshoff, M. Wildenhain, H. Schenk
Synchronized micro scanner array for large aperture receiver optics of LIDAR systems
 In: SPIE Conference: MOEMS and Miniaturized Systems IX, San Francisco, USA, 2010, Proc. SPIE 7594, DOI: 10.1117/12.844923 (2010)
110. T. Sandner, M. Wildenhain, C. Gerwig, H. Schenk, S. Schwarzer, H. Wölfelschneider
Large aperture MEMS scanner module for 3D distance measurement
 In: SPIE Conference: MOEMS and Miniaturized Systems IX, San Francisco, USA, 2010, Proc. SPIE 7594, DOI: 10.1117/12.844926 (2010)
111. A. Tortschanoff, M. Lenzhofer, A. Frank, M. Wildenhain, T. Sandner, H. Schenk, A. Kenda
Optical position feedback and phase control of MOEMS-scanner mirrors
 In: SPIE Conference: MOEMS and Miniaturized Systems IX, San Francisco, USA, 2010, Proc. SPIE 7594, DOI: 10.1117/12.840629 (2010)
112. A. Kenda, M. Kraft, A. Tortschanoff, C. Wagner, B. Lendl, T. Sandner, H. Schenk
Miniaturized MEMS-based spectrometric sensor for process control and analysis of carbonated beverages
 In: SPIE Conference: MOEMS and Miniaturized Systems IX, San Francisco, USA, 2010, Proc. SPIE 7594, DOI: 10.1117/12.841957 (2010)
113. M. Scholles, M. Grafe, P. Miskowiec, V. Bock, H. Schenk
Optical inspection of MOEMS devices using a configurable and suitable for production image processing system
 In: SPIE Conference: Reliability, Packaging, Testing, and Characterization of MEMS/ MOEMS and Nanodevices IX, San Francisco, USA, 2010, Proc. SPIE 7592, DOI: 10.1117/12.845075 (2010)
114. H. R. Seren, N. P. Ayerden, J. Sharma, S. T. S. Holmström, T. Sandner, T. Grasshoff, H. Schenk, H. Urey
Lamellar grating based MEMS Fourier transform spectrometer
 In: IEEE Conference: International Conference on Optical MEMS and Nanophotonics, Sapporo, Japan, Proc. IEEE Vol. 1, pp. 105-106, DOI: 10.1109/OMEMS.2010.5672163 (2010)
115. T. Sandner, T. Grasshoff, H. Schenk
Translatory MEMS actuator with extraordinary large stroke for optical path length modulation
 In: IEEE Conference: International Conference on Optical MEMS and Nanophotonics, Sapporo, Japan, Proc. IEEE Vol. 1, pp. 25-26, DOI: 10.1109/OMEMS.2010.5672203 (2010)
116. A. Tortschanoff, A. Frank, M. Wildenhain, T. Sandner, H. Schenk, A. Kenda
Position feedback and phase control of resonant MOEMS-mirrors with one and two axes
 In: Procedia Engineering 5, Proc. Eurosensors XXIV, pp. 689-692, DOI: 10.1016/j.proeng.2010.09.203 (2010)
117. H. Grüger, M. Scholles, H. Schenk
MEMS-based photonic systems: Hardware synergy for maximized user benefits
 In: Microtech Conference & Expo, Anaheim, USA, 2010, Proc. of NSTI-Nanotech (2010)
118. T. Sandner, T. Grasshoff, H. Schenk, A. Kenda
Out-of-plane translatory MEMS actuator with extraordinary large stroke for optical path length modulation
 In: SPIE Conference: MOEMS and Miniaturized Systems X, San Francisco, USA, 2011, Proc. SPIE 7930, DOI: 10.1117/12.879069 (2011)
119. A. Tortschanoff, A. Frank, M. Wildenhain, H. S. Tetikol, T. Sandner, H. Schenk, A. Kenda
Optical position feedback and phase control of resonant 1D and 2D MOEMS-scanners
 In: SPIE Conference: MOEMS and Miniaturized Systems X, San Francisco, USA, 2011, Proc. SPIE 7930, DOI: 10.1117/12.873261 (2011)

120. J. Grahmann, T. Grasshoff, H. Conrad, T. Sandner, H. Schenk
Integrated piezoresistive position detection for electrostatic driven micro scanning mirrors
 In: SPIE Conference: MOEMS and Miniaturized Systems X, San Francisco, USA, 2011, Proc. SPIE 7930, DOI: 10.1117/12.874979 (2011)
121. A. Mai, M. Krellmann, S. Sinning, S. Wolschke, Dauderstädt, M. Wagner, D. Schmeißer, H. Schenk
In situ surface topography measurement of MOEMS structures under laser exposure
 In: SPIE Conference: MOEMS and Miniaturized Systems X, San Francisco, USA, 2011, Proc. SPIE 7930, DOI: 10.1117/12.877062 (2011)
122. H. Conrad, W. Pufe, H. Schenk
Aluminum nitride thin film development using statistical methods
 In: International Students and Young Scientists Workshop „Photonics and Microsystems”, Cottbus, Germany, pp. 10-19, DOI: 10.1109/STYSW.2011.6155833 (2011)
123. T. Pügner, J. Knobbe, H. Grüger, H. Schenk
Design of a hybrid integrated MEMS scanning grating spectrometer
 In: SPIE Conference: Optical Design and Engineering IV, Marseille, France, 2011, Proc. SPIE 8167, DOI: 10.1117/12.896872 (2011)
124. T. Sandner, D. Jung, D. Kallweit, T. Grasshoff, H. Schenk
Microscanner with vertical out of plane combdrive
 In: International Conference on Optical MEMS & Nanophotonics, Istanbul, Turkey, 2011, pp. 33-34, DOI: 10.1109/OMEMS.2011.6031051 (2011)
125. D. Kallweit, D. Jung, T. Sandner, H. Schenk
Fabrication of a quasistatic-resonant microscanner by implementing a vertical combdrive through wafer assembly actuation
 In: International Conference on Optical MEMS & Nanophotonics, Istanbul, Turkey, 2011, pp. 147-148, DOI: 10.1109/OMEMS.2011.6031046 (2011)
126. T. Pügner, J. Knobbe, H. Grüger, H. Schenk
Realization of a hybrid-integrated MEMS scanning grating spectrometer
 In: SPIE Conference: Next-Generation Spectroscopic Technologies V, Baltimore, USA, 2012, Proc. SPIE 8374, DOI: 10.1117/12.919068 (2012)
127. J. Grahmann, M. Wildenhain, T. Grasshoff, C. Gerwig, H.-G. Dallmann, A. Wolter, H. Schenk
Laser projector solution based on two 1D resonant micro scanning mirrors assembled in a low vertical distortion scan head
 In: SPIE Conference: MOEMS and Miniaturized Systems XI, San Francisco, USA, 2012, Proc. SPIE 8252, DOI: 10.1117/12.910671 (2012)
128. C. Drabe, D. Kallweit, A. Dreyhaupt, J. Grahmann, H. Schenk, W. Davis
Bi-resonant scanning mirror with piezo-resistive position sensor for WVGA laser projection systems
 In: SPIE Conference: MOEMS and Miniaturized Systems XI, San Francisco, USA, 2012, Proc. SPIE 8252, DOI: 10.1117/12.910203 (2012)
129. T. Sandner, T. Grasshoff, H. Schenk, A. Kenda
Translatory MEMS actuator and their system integration for miniaturized Fourier transform spectrometers
 In: SPIE Conference: MOEMS and Miniaturized Systems XI, San Francisco, USA, 2012, Proc. SPIE 8252, DOI: 10.1117/12.909817 (2012)
130. A. Tortschanoff, M. Baumgart, A. Frank, M. Wildenhain, T. Sandner, H. Schenk, A. Kenda
Optical position feedback for electrostatically driven MOEMS-scanners
 In: SPIE Conference: MOEMS and Miniaturized Systems XI, San Francisco, 2012, USA, Proc. SPIE 8252, DOI: 10.1117/12.907761 (2012)

131. D. Jung, T. Sandner, D. Kallweit, H. Schenk
Vertical comb drive microscanners for beam steering, linear scanning and laser projection applications
 In: SPIE Conference: MOEMS and Miniaturized Systems XI, San Francisco, USA, 2012, Proc. SPIE 8252, DOI: 10.1117/12.906690 (2012)
132. H. Grüger, J. Knobbe, T. Pügner, H. Schenk
Design and characterization of a hybrid-integrated MEMS scanning grating spectrometer
 In: SPIE Conference: MOEMS and Miniaturized Systems XII, San Francisco, USA, 2013, Proc. SPIE 8616, DOI: 10.1117/12.2004215 (2013)
133. S. Langa, C. Drabe, C. Kunath, A. Dreyhaupt, H. Schenk
Wafer level vacuum packaging of scanning micro-mirrors using glass-frit and anodic bonding methods
 In: SPIE Conference: MOEMS and Miniaturized Systems XII, San Francisco, USA, 2013, Proc. SPIE 8614, DOI: 10.1117/12.2003525 (2013)
134. H. Grüger, T. Pügner, J. Knobbe, H. Schenk
First application close measurements applying the new hybrid integrated MEMS spectrometer
 In: SPIE Conference: Next-Generation Spectroscopic Technologies VI, Baltimore, USA, 2013, Proc. SPIE 8726, DOI: 10.1117/12.2016085 (2013)
135. T. Sandner, S. Kimme, T. Grasshoff, U. Todt, A. Graf, H. Schenk, C. Tulea, A. Lenenbach
Micro-scanning mirrors for high-power laser applications in laser surgery camera
 In: International Conference on Optical MEMS & Nanophotonics, Kanazawa, Japan, 2013, pp. 83-4, DOI: 10.1117/12.2042671 (2013)
136. T. Sandner, T. Grasshoff, M. Schwarzenberg, H. Schenk, A. Tortschanoff
Quasi-static microscanner with linearized raster scanning for an adaptive 3D-laser camera
 In: International Conference on Optical MEMS & Nanophotonics, Kanazawa, Japan, 2013, pp. 103-4, DOI: 10.1109/OMN.2013.6659080 (2013)
137. T. Sandner, S. Kimme, T. Grasshoff, U. Todt, A. Graf, C. Tulea, A. Lenenbach, H. Schenk
Micro-scanning mirrors for high-power laser applications in laser surgery
 In: SPIE Conference: MOEMS and Miniaturized Systems XIII, San Francisco, USA, 2014, Proc. SPIE 8977, DOI: 10.1117/12.2042671 (2014)
138. T. Sandner, T. Grasshoff, M. Schwarzenberg, R. Schroedter, H. Schenk
Quasi-static microscanner with linearized raster scanning for an adaptive 3D-laser camera
 In: SPIE Conference: MOEMS and Miniaturized Systems XIII, San Francisco, USA, 2014, Proc. SPIE 8977, DOI: 10.1117/12.2064898 (2014)
139. J. Grahmann, A. Merten, R. Ostendorf, M. Fontenot, D. Bleh, H. Schenk, H.-J. Wagner
Tunable external cavity quantum cascade lasers (EC-QCL): an application field for MOEMS based scanning gratings
 In: SPIE Conference: MOEMS and Miniaturized Systems XIII, San Francisco, USA, 2014, Proc. SPIE 8977, DOI: 10.1117/12.2039950 (2014)
140. D. Bleh, R. Ostendorf, A. Merten, J. Grahmann, H. Schenk, M. Kunzer, R. Schmidt, J. Wagner
Miniaturization of a fast tunable external cavity QCL with customized gratings and MOEMS components
 In: International Quantum Cascade Lasers School & Workshop (IQCLSW), Policoro, Italy, 2014, pp. 1-2 (2014)
141. C. Schirrmann, F. Costache, K. Bornhorst, B. Pawlik, A. Rieck, H. Schenk
Design and fabrication of a tunable two-fluid micro-lens device with a large deflection polymer actuator
 In: Procedia Engineering 87, Proc. Eurosensors XXVIII, Brescia, Italy, 2014, pp. 1553-1556, DOI: 10.1016/j.proeng.2014.11.596 (2014)

142. S. Hintschich, T. Pügner, J. Knobbe, J. Schröder, P. Reinig, H. Gröger, H. Schenk
MEMS-based miniature near-infrared spectrometer for application in environmental and food monitoring
 In: IEEE Conference: International Conference on Sensing Technology, Liverpool, UK, 2014, Proc. IEEE, pp. 430-434 (2014)
143. A. Kenda, M. Kraft, A. Tortschanoff, W. Scherf, T. Sandner, H. Schenk, S. Luetjohann, A. Simon
Development, characterization and application of compact spectrometers based on MEMS with in-plane capacitive drives
 In: SPIE Conference: Next-Generation Spectroscopic Technologies VII, Baltimore, USA, 2014, Proc. SPIE 9101, 910102-1-10, DOI: 10.1117/12.2053347 (2014)
144. J. Wagner, R. Ostendorf, J. Grahmann, A. Merten, S. Hugger, J.-P. Jarvis, F. Fuchs, D. Boscovic, H. Schenk
Widely tunable quantum cascade lasers for spectroscopic sensing
 In: SPIE Conference: Quantum Sensing and Nanophotonic Devices XII, San Francisco, USA, 2015, Proc. SPIE 9370, DOI: 10.1117/12.2082794 (2015)
145. C. Sicker, J. Heber, D. Berndt, F. Rückerl, J.-Y. Tinevez, S. Shorte, M. Wagner, H. Schenk
Spatially resolved contrast measurement of diffractive micromirror arrays
 In: SPIE Conference: MOEMS and Miniaturized Systems XIV, San Francisco, USA, 2015, Proc. SPIE 9375, DOI: 10.1117/12.2076921 (2015)
146. H. Schenk, H. Conrad, M. Gaudet, S. Uhlig, B. Kaiser, S. Langa, M. Stolz, K. Schimmanz
A novel electrostatic micro-actuator class and its application potential for optical MEMS
 In: International Conference on Optical MEMS and Nanophotonics (OMN), Singapore, 2016, invited paper, Proc. IEEE, Art. Tu3.11, DOI: 10.1109/OMN.2016.7565867 (2016)
147. H. Conrad, B. Kaiser, M. Gaudet, S. Langa, M. Stolz, S. Uhlig, K. Schimmanz, H. Schenk
A novel electrostatic actuator class
 In: Procedia Engineering, 168, pp. 1533-1536, DOI: 10.1016/j.proeng.2016.11.454 (2016)
148. M. Gaudet, S. Uhlig, M. Stolz, S. Arscott, H. Conrad, S. Langa, B. Kaiser, H. Schenk
Electrostatic bending actuators with liquid filled nanometer scale gap
 In: IEEE Conference: International Conference on Micro Electro Mechanical Systems, Las Vegas, USA, 2017, Proc. IEEE, pp. 175-178, DOI: 10.1109/MEMSYS.2017.7863369 (2017)
149. H. Schenk, H. Conrad, M. Gaudet, S. Uhlig, B. Kaiser, S. Langa, M. Stolz, K. Schimmanz
A contribution to the expansion of the applicability of electrostatic forces in micro transducers
 In: SPIE Conference: MOEMS and Miniaturized Systems XVI, San Francisco, USA, 2017, invited paper, Proc. SPIE 10116, DOI: 10.1117/12.2249575 (2017)
150. H. Conrad, M. Gaudet, B. Kaiser, S. Langa, M. Stolz, H. Schenk
CMOS-kompatible elektrostatische Biegeaktoren [CMOS-compatible electrostatic actuators]
 In: MikroSystemTechnik-Kongress, Munich, Germany, 2017, VDE-Verlag, pp. 219-222 (2017)
151. S. Uhlig, M. Gaudet, S. Langa, K. Schimmanz, H. Conrad, B. Kaiser, H. Schenk
Electrostatically in-plane driven silicon micropump for modular configuration
 In: Conference on MicroFluidic Handling Systems (MFHS), Enschede, Netherlands, 2017, Proc. MFHS, pp. 57-60 (2017)
152. H. Schenk, M. Wagner, J. Grahmann, A. Merten
Advances in MOEMS technologies for high quality imaging systems
 In: SPIE Conference: Advanced Lithography, San Jose, USA, 2018, Proc. SPIE 10587, DOI: 10.1117/12.2297399 (2018)

153. H. Conrad, L. Ehrig, B. Kaiser, He. Schenk, D. Schuffenhauer, M. Stolz, M. Gaudet, H. Schenk
CMOS-kompatibler MEMS-Lautsprecher für Im-Ohr-Anwendungen [CMOS-compatible MEMS speaker for in-ear applications]
In: DAGA Conference, Munich, Germany, 2018, Proc. DAGA, pp. 892-894 (2018)
154. L. Ehrig, B. Kaiser, H. Conrad, He. Schenk, D. Schuffenhauer, M. Stolz, M. Gaudet, H. Schenk
MEMS-Loudspeaker – A novel class of electroacoustic transducers for mobile audio applications
In: Tonmeistertagung - VDT International Convention, Cologne, Germany, 2018, Proc. TMT30, pp. 189-192 (2018)
155. M. Stolz, A. Mrosk, B. Kaiser, S. Langa, L. Ehrig, H. Conrad, M. Gaudet, H. Schenk
Optische Charakterisierungsmethoden von siliziumbasierten MEMS mit verdeckten Strukturen [Optical characterization methods of silicon based MEMS with hidden structures]
In: MikroSystemTechnik-Kongress, Berlin, Germany, 2019, VDE-Verlag, pp. 366-369 (2019)
156. B. Spitz, F. Wall, He. Schenk, A. Melnikov, L. Ehrig, S. Langa, M. Stolz, B. Kaiser, H. Conrad, H. Schenk
Audio-Transducer für In-Ear-Anwendungen auf der Basis CMOS-kompatibler, elektrostatischer Biegeaktoren [Audio transducer for in-ear applications on the basis of CMOS-compatible, electrostatic bending actuators]
In: MikroSystemTechnik-Kongress, Berlin, Germany, 2019, VDE-Verlag, pp. 54-57 (2019)
157. S. Langa, B. Kaiser, M. Stolz, L. Ehrig, He. Schenk, R. Pineda Gomez, D. Schuffenhauer, F. Selbmann, H. Conrad, H. Schenk
Fully integrated MEMS loudspeaker based on NED actuators and wafer level bonding
In: International Conference of Wafer Bonding, Halle, Germany, Proc. WaferBond'19, pp. 57-58 (2019)
158. L. Ehrig, B. Kaiser, He. Schenk, M. Stolz, S. Langa, H. Conrad, H. Schenk, A. Männchen, T. Brocks
Acoustic validation of electrostatic all-silicon MEMS-speakers
In: AES International Conference on Headphone Technology, San Francisco, New York, USA, 2019, DOI: 10.17743/aesconf.2019.978-1-942220-29-9, Paper 10 (2019)
159. L. Ehrig, He. Schenk, F. Wall, B. Kaiser, S. Langa, M. Stolz, D. Schuffenhauer, M. M. Guaracao, A. Melnikov, A. Mrosk, H. Conrad, H. Schenk
Electrostatic all-silicon MEMS audio transducer for in-ear audio applications – acoustic measurements and modelling approach
In: 23rd International Congress on Acoustics, Aachen, Germany, 2019, DOI: 10.18154/RWTH-CONV-239893 (2019)
160. A. Melnikov, He. Schenk, F. Wall, B. Spitz, L. Ehrig, S. Langa, B. Kaiser, H. Conrad, H. Schenk
Minimization of nonlinearities in nano electrostatic drive actuators using validated coupled-field simulation
In: SPIE Conference: MOEMS and Miniaturized Systems XIX, San Francisco, USA, 2020, Proc. SPIE 11293, DOI: 10.1117/12.2551271 (2020)
161. S. Schweiger, S. G. Koch, H. Schenk
Two-Photon-Lithography Substrate Reflection and Absorption Compensation for Additive Manufacturing of Metamaterials on MEMS
In: 44th International Spring Seminar on Electronics Technology, Dresden, Germany (2021)
162. F. Villasmunta, P. Steglich, S. Schrader, H. Schenk, A. Mai
Numerical simulation of optical through-silicon waveguide for 3D photonic interconnections
In: NUSOD Numerical Simulation of Optoelectronic Devices, Turin, Italien (2021)

163. A. Melnikov, M. Stolz, F. Wall, B. Kaiser, A. Mrosk, D. Schuffenhauer, J. Monsalve, L. Sergiu, H. Schenk, He. Schenk, L. Ehrig, H. Conrad, M. Ahnert
Nonlinearity of balanced MEMS loudspeakers: Optical experiments and numerical modeling using time-harmonic signals
In: 27th International Congress on Sound and Vibration, Annual Congress of International Institute of Acoustics and Vibration (IIAV) (2021)
164. K. Narimani, S. Shashank, S. Langa, R. Pineda Gómez, C. Ruffert, M. Scholles, H. Schenk
Highly Modular Microsystem Inchworm Motor Based on a Nanoscopic Electrostatic Drive
In: MikroSystemTechnik Kongress, Ludwigsburg, Deutschland (2021)
165. M. Stolz, S. Langa, B. Kaiser, H. Schenk
Reliability Aspects of in-plane NED Bending Actuators in Silicon-based MEMS
In: MikroSystemTechnik Kongress, Ludwigsburg, Deutschland (2021)
166. S. Schweiger, S. Koch, H. Schenk
Two-Photon Lithography Parameter Study for Manufacturing of Acoustic Metamaterials on MEMS
In: MikroSystemTechnik Kongress, Ludwigsburg, Deutschland (2021)
167. J. Monsalve, H. Schenk
Large-Signal Equivalent-Circuit Model of Asymmetric Electrostatic Transducers
In: IEEE/ASME International Conference on Advanced Intelligent Mechatronics (2022)

Dissertation, habilitation thesis and contributions to books

1. H. Schenk
Ein neuartiger Mikroaktor zur ein- und zweidimensionalen Ablenkung von Licht [A novel micro actuator for one- and two-dimensional deflection of light]
Dissertation, Gerhard-Mercator-University, Duisburg (2001)
2. H. Lakner, A. Wolter, H. Schenk
Bildgebende Mikrosysteme: Chips, die mit Licht arbeiten [Imaging microsystems: Chips that work with light]
Jahrbuch Optik und Feinmechanik 2001, Fachverlag Schiele & Schön, Berlin, pp. 167-190 (2001)
3. H. Schenk
Siliziumbasierte mikrooptische Modulatoren [Silicon-based micro-optical modulators]
Habilitation thesis, Brandenburg University of Technology, Cottbus (2008)
4. H. Schenk
Optische Mikrosysteme [Optical microsystems]
Chapter 17 in textbook of VDI "Mikrotechnologie für Ausbildung, Studium und Weiterbildung (Microtechnology for training, studies and training)", Fachbuchverlag Leipzig, Carl Hanser Verlag, pp. 539-592 (2011)
5. H. Schenk, L. J. Hornbeck
Micro Mirrors
Chapter 46 in "Nanoelectronics and Information Technology, Advanced Electronic Materials and Novel Devices", Wiley-VCH, pp. 985-999 (2012)
6. H. Schenk, M. Schulze
Micro Mirrors
Chapter 49 in "Handbook of Silicon Based MEMS Materials and Technologies", Elsevier, pp. 949-968 (2020)

Edited publications

1. D. L. Dickensheets, B. P. Gogoi, H. Schenk (editors)
MOEMS and Miniaturized Systems VI
Proceedings of SPIE, Vol. 6466 (2007)
2. D. L. Dickensheets, H. Schenk (editors)
MOEMS and Miniaturized Systems VII
Proceedings of SPIE, Vol. 6887 (2008)
3. W. Piyawattanametha, H. Schenk (Guest Editorial)
Special Section on Silicon-based MOEMS and their Applications
Journal of Micro/ Nanolithography, MEMS, and MOEMS
Vol. 7, No 2, p. 080901-1 (2008)
4. D. L. Dickensheets, H. Schenk, W. Piyawattanametha (editors)
MOEMS and Miniaturized Systems VIII
Proceedings of SPIE, Vol. 7208 (2009)
5. H. Schenk, W. Piyawattanametha (editors)
MOEMS and Miniaturized Systems IX
Proceedings of SPIE, Vol. 7594 (2010)
6. H. Schenk, W. Piyawattanametha (editors)
MOEMS and Miniaturized Systems X
Proceedings of SPIE, Vol. 7930 (2011)
7. H. Schenk, W. Piyawattanametha, W. Noell (editors)
MOEMS and Miniaturized Systems XI
Proceedings of SPIE, Vol. 8252 (2012)

List of patents and patent registrations

1. H. Schenk, P. Dürr, H. Kück
Micromechanical component comprising an oscillating body
Status: issued. EP 1123526 (24.07.2002), US 6,595,055 (22.07.2003)
2. H. Schenk, A. Wolter, M. Schwarzenberg
Projection apparatus
Status: issued. US 6,843,568 (18.01.2005)
3. A. Kenda, W. Scherf, M. Kraft, H. Schenk
Miniaturized fourier transform spectrometer
Status: closed.
4. H. Schenk, H. Grüger
Spectrometer
Status: issued. US 7,034,936 (25.04.2006), EP 1474 665 (06.09.2006), DE 502 08 089.2-08 (06.09.2006)
5. H. Schenk, H. Grüger
Spectrometer
Status: issued. US 7,027,152 (11.04.2006), EP 1474 666 (08.08.2007)
6. H. Schenk
Micromechanical device
Status: issued. US 7,078,778 (18.07.2006), EP 1410 047 (28.02.2007), DE 20015012140 (12.04.2007)
7. C. Drabe, A. Wolter, H. Schenk
Micromechanical element having adjustable resonant frequency
Status: issued. DE 503 11 766.8-08 (29.07.2009)
8. H. Schenk
Apparatus and method for projecting images and/or processing materials
Status: issued. EP 1652 377 (11.10.2006), DE 503 05 392.9-08 (11.10.2006), US 7,518,770 (14.04.2009),
9. H. Schenk
Apparatus and method for controlling or regulating an oscillating deflectable micromechanical element
Status: issued. US 7,977,897 (12.07.2011)
10. H. Schenk, C. Drabe
Micro-optical arrangement
Status: issued. US 7,301,690 (27.11.2007), DE 50 2005 013 490.7 (27.02.2013)
11. H. Schenk, A. Wolter, T. Sandner, C. Drabe, T. Klose
Oscillating, deflectable micromechanical element and method for use thereof
Status: issued. US 7,932,788 (26.04.2011), DE 11 2006 003 849 (20.09.2012)
12. T. Sandner, H. Schenk, W. Pufe
Microoptic reflecting component
Status: issued. US 7,490,947 (17.02.2009), DE 10 2006 059 091 (31.03.2011), CN 1982201 (14.11.2012)
13. T. Klose, A. Wolter, H. Schenk
Method for the compensation of deviations occurring as a result of manufacture in the manufacture of micromechanical elements and their use
Status: issued. DE 10 2006 043 388 (10.04.2008), US 7,951,635 (31.05.2011), CN 101139080 (28.03.2012)

14. H. Schenk, T. Sandner
Mikromechanisches Bauelement mit erhöhter Steifigkeit und Verfahren zum Herstellen desselben
[**Micromechanical component having increased stiffness, and method for the production of the same**]
Status: issued. DE 11 2007 003 051 (20.12.2012)
15. J.-U. Schmidt, T. Sandner, H. Schenk, A. Gatto, M. Yang, J. Heber, N. Kaiser
Micromechanical mirrors with a high-reflection coating, method for production thereof and use thereof
Status: issued. US 7,573,634 (11.08.2009); disclosure. DE 10 2004 030 803 (19.01.2006)
16. T. Sandner, H. Schenk, M. Scholles, M. Schwarzenberg, A. Wolter
Projection apparatus for scanningly projection
Status: issued. US 7,847,997 (07.12.2010); CN ZL 2008 1 0083459.7 (16.06.2010)
17. H. Schenk, T. Sandner, C. Drabe, T. Klose, D. Jung
Micromechanical device with tilted electrodes
Status: issued. US 7,466,474 (16.12.2008), DE 10 2008 012 825 (25.08.2011), CN 101284642 (28.03.2012)
18. D. Jung, C. Drabe, H. Schenk, T. Sandner, T. Klose, A. Wolter
Method for generating a micromechanical structure
Status: issued. US 7,940,439 (10.05.2011), CN 101279712 (14.11.2012), DE 10 2008 013 116 (11.04.2013)
19. T. Sandner, H. Schenk
Optical device comprising a structure for avoiding reflections
Status: issued. US 7,760,414 (20.07.2010), CN 101281295 (04.05.2011), DE 10 2008 012 810 B4 (12.12.2013)
20. H. Conrad, H. Schenk, C. Schirrmann, T. Sandner, F. Haacker, J.-U. Schmidt
Electrostatic deflectable monomorph for the curvature of beams and plates in microcomponents
Status: issued. US 9,164,277 (20.10.2015), JP 5951640 (17.06.2016), DE 50 2011 012 156.3 (03.05.2017), FR 2 664 058 (03.05.2017), IT 502017000084227 (03.05.2017)
21. F. Costache, M. Blasl, H. Schenk
Apparatus and method for guiding optical waves
Status: issued. JP 5398923 (01.11.2013), DE 60 2010 014 412.7 (19.03.2014), US 9,046,704 (02.06.2015), GB EP 2 513715 B1 (19.03.2014)
22. H. Conrad, H. Schenk, C. Schirrmann, F. Zimmer, J.-U. Schmidt, T. Sandner
Micromechanical device
Status: issued. US 9,164,277 (20.10.2015), JP 5951640 (13.07.2016), EP 2664058 (03.05.2017)
23. F. Costache, H. Schenk, K. Bornhorst, C. Schirrmann
Fluidic variable focal length optical lens and method of manufacturing the same
Status: issued. US 9,250,367 (02.02.2016), DE 11 2010 005 674 (01.10.2020)
24. H. Schenk, J. Grahmann, H.-J. Wagner, R. Ostendorf, M. Rattunde
Microelectromechanical system for tuning of lasers
Status: issued. DE 10 2014 201 701 (05.04.2018), US 9893491 (13.02.2018), JP 6321190 (13.04.2018)
25. S. Langa, H. Conrad, H. Schenk, M. Stolz
Electrostatically deflectable micromechanical device
Status: issued. DE 10 2014 225 934 (03.08.2017), US 10,483,876 (19.11.2019)
26. E. Kurth, C. Kunath, H. Schenk
Ion-sensitive structure and method for producing the same

Status: issued. US 10,365,244 (30.07.2019), DE 50 2016 014 831.7 (04.05.2022), EP 3 070 463 (04.05.2022), CH 3070463 (04.05.2022)

27. H. Schenk, H. Conrad, M. Gaudet, K. Schimmanz, S. Langa, B. Kaiser
MEMS transducer for interacting with a volume flow of a fluid and method for manufacturing the same
Status: issued. CN 2016 8 0048446.9 (19.06.2020), JP 6668385 (28.02.2020), KR 102036429 (28.10.2019), US 10,457,544 (29.10.2019), DE 50 2016 013 380.8 (07.07.2021), FR 3 308 555 (07.07.2021), GB 3 308 555 (07.07.2021), NL 3 308 555 (07.07.2021); disclosure. EP 21168755.3 (14.06.2016)
28. H. Conrad, M. Gaudet, H. Schenk, S. Uhlig
Mikromechanical devices with mechanical actuators
Status: issued. DE 602018015497 (14.04.2021), FR 3568595 (14.04.2021); disclosure. US 16/507,932 (09.01.2018)
29. H. Schenk, H. Conrad
MEMS-Wandler zum Interagieren mit einem Volumenstrom eines Fluids und Verfahren zum Herstellen desselben [MEMS transducer for interacting with a volume flow of a fluid and method for producing the same]
Status: disclosure. DE 10 2017 206 766.7 (21.04.2017), US 16/658,461 (20.04.2018), WE 18718833 (20.04.2018)
30. H. Schenk, M. Gaudet
Device for linear variable capacitance
Status: closed.
31. S. Shashank, H. Schenk, M. Gaudet
MEMS actuator and method for controlling a MEMS actuator
Status: issued. DE 10 2020 214 445 (05.05.2022); disclosure. WO PCT/EP2021/082038 (17.11.2021)