

CURRICULUM VITAE

JOSE SASIAN

CONTACT INFORMATION

College of Optical Sciences

University of Arizona

Tucson, AZ 85721

Tel: (520) 621 3733

Fax: (520) 621 3389

E-mail: jose.sasian@optics.arizona.edu

Web: <http://www.optics.arizona.edu/Faculty/Resumes/Sasian.htm>

PROFESSIONAL AND RESEARCH INTERESTS

Education and teaching optical sciences. Optical engineering in general. Managing programs in optical engineering. Optical instrumentation, Optical design, optical fabrication and testing, illumination optics, astronomical optics, diffractive optics, opto-mechanical design, lithography optics, Optics in art and art in optics, light in gemstones and light propagation as a general subject.

CHRONOLOGY OF EMPLOYMENT

- Professor of Optics and Astronomy, University of Arizona, 2001 to date.
- Associate Professor, University of Arizona, 1995 to 2001.
- Member of Technical Staff, AT&T Bell Laboratories, 1990-1995.
- Research Associate, University of Arizona, Optical Sciences Center, 1989-1990.
- Research Assistant, University of Arizona, Optical Sciences Center, 1984-1988.
- Optician, University of Mexico, Institute of Astronomy, Mexico, 1974-1984.

CHRONOLOGY OF EDUCATION

- Ph. D. Optical Sciences, December 1988. University of Arizona
- Master of Science, May 1987. University of Arizona
- B. Sc. Physics, October 1982. University of Mexico (UNAM)

SPECIAL ACHIEVEMENTS

- Chair, “Optical System Alignment, Tolerancing and verification” SPIE Conference, 2007-2016
- Member of the OSA and SPIE “Joseph Goodman Book Award” committee 2006-2008
- Topical Editor Applied Optics, 1998 to 2004
- Chair, “Novel Optical Systems Design and Optimization” SPIE Conference, 1995-2006
- Co Chair, “International Optical Design Conference,” 2002
- Co Chair, “Optical design and Testing Conference,” Shanghai, China 2002
- Co Chair, “Optical design and Testing Conference,” Beijing, China 2004
- Institute National for Astrophysics, Optics and Electronics (INAOE), Mexico, External Evaluating Committee, member 1996-2002
- Center for Research in optics (CIO), Mexico, External Evaluating Committee, member 2001 to 2004.
- Committee member of OSA Joseph Goodman Award, 2010
- Committee member of OSA Joseph Franhoufer Medal, 2004
- Committee member of OSA Adolph Lomb Medal, 1997
- Capella Photonics, Technical Advisory board member, 2001-2003
- ETEC, Technical Advisory board member, 1998
- Rudolf Kingslake medal and prize, 1994, International Society for Optical Engineering
- Merit award, Riverside Telescope Makers Conference, 1988

PROFESSIONAL AFFILIATIONS

- Fellow of the International Society for Optical Engineering
- Optical Society of India, Lifetime member
- Fellow of the Optical Society of America

SPECIAL COURSES

- Advanced Lens Design, CORE Utsonomya University, Japan 2014.
- Advanced Lens Design, CORE Utsonomya University, Japan 2016

GRADUATED STUDENTS 1996-2016

1. Yufeng Yan, M. Sc. Thesis, "Photographic Fisheye Lens Design for 35 mm Format Cameras," 2016.
2. Jesse Ball, M.Sc. Thesis, "NCPA Optimizations at Gemini North using Focal Plane Sharpening," 2016.
3. Gong Chen, M. Sc. Report "Design of a large a large working are F-theta lens," 2016.
4. Emily Heaton, M.Sc. Report, "Interferometric Methods for Aligning and Measuring Test Surfaces," 2016.
5. Andrew McCarron, M.Sc. Report, "Long wave infrared scan lens design and distortion correction," 2016.
6. Taylor Davis Sorensen, M.Sc. "SWIR/MWIR Objective Lens," Report 2016.
7. Rhiannon Katarina Jenkins, M.Sc. "MTF Lens Evaluation," Report 2016.
8. Dmitry Reshidko, Ph.D. "Topics in Modern Lens Design," Dissertation, 2016
9. Douglas, "Shadow Imaging of Geosynchronous Satellites," Ph.D. Dissertation 2014.
10. Lori Ann Moore, "Plenoptic Cameras, Shack-Harman Wavefront Sensors, and Related Lens Array Based Optical Systems," Ph.D. Dissertation 2014.
11. Yuhao Wang, "Advanced Theory of Field Curvature." Ph.D. Dissertation 2014.
12. Adam Persia, M. Sc. Report 2014.
13. Eric Herman, M. Sc Report 2014.
14. Akash Arora, M. Sc. Report 2014.
15. Mary Liang, Design of Custom Chromatic Reimaging Optics," Ms. Sc. Thesis 2013.
16. Oscar Martinez, "A Systematic Approach to Glass Selection for Complex Optical Systems." Ms. SC. Thesis 2012.
17. Takashi Nakazawa, "Optical profilers," Ph. D. Dissertation 2011.
18. Manit M. Limlamai, " Optical systems in microlithography," M. Sc. Report 2011.

19. Lirong Wang, "Design, modeling, and testing of optical surfaces in illumination optics," Ph. D. Dissertation, 2010.
20. Stacy Munger, "Spherical Aberration Study," M. Sc. Thesis, 2010.
21. Rong Lui, M. Sc. Report, 2010.
22. Ernest Fasse, "Image Motion Compensation," M. Sc. Report, 2010.
23. Cheng Kuei-Yeh, "Cell phone zoom lens design and patent research," M. Sc. Report, 2010.
24. Rania Abd El-Maksoud, "Ghost image analysis in Optical Systems," Ph.D. Dissertation, 2009.
25. Ralph Shepard, "Optical Design with Negative Index Materials," Ph. D. Dissertation, 2009.
26. Gerard Desroches, "Optical Design with Liquids," M. Sc. Report 2009.
27. Ryan Irving, "Optical Systems Design Considerations for Infrared Applications," M. Sc. Report, 2009.
28. Rachel Haynes, "Transferring FEA results into an optical design program," M. Sc. Report 2009.
29. Tim Johnson, "Optical design and analysis of an X-ray telescope and reflection grating spectrometer system," M. Sc. Report 2009.
30. Jacob Egan, "Design of a space-based optical camera for an asteroid sample return mission," M. Sc. Report, 2009.
31. Sheng Yuan, "Aberrations of Anamorphic Optical Systems," Ph. D. Dissertation. 2008.
32. Rob Bates, "Design for Fabrication: Miniature Camera Lens Case Study," M. Sc. Report, 2008.
33. Alice Palmer, "Multiple Aperture Telescope Collector Considerations," M. Sc. Report, 2008.
34. Ming Lie, "Optics Industry Comparison between United States of America and People's Republic of China, M. Sc. Report 2008.

35. George Duckett, "Fourth and Sixth-Order wavefront aberrations of common lens systems," M. Sc. Report, 2008.
36. Andrei Kazmierski, "Design and analysis of a confocal microscope utilizing and incoherent light source and reflective spatial light modulator," M. Sc. Thesis 2008.
37. Jay Perlin, "Recent developments in optical fabrication," M. Sc. Report, 2007.
38. Chao-Wen Liang, "The grating-slit test," Ph. D. Dissertation, 2006.
39. Stevie Smith, "Examples of Lens Behavior Statistics Under Fabrication Errors. M. Sc. Thesis, 2006.
40. Robert Sprowl, "Optical Testing," M. Sc. Report, 2006.
41. Kevin O'Shea, "Lens Design Approach to Optical Relays," M. Sc. Thesis, 2005.
42. Josh Hudman, "Analysis of an Off-Axis Null Corrector and the Characterization of a 1 Meter Liquid Flat, M. Sc. 2005.
43. Marguerite Green, "History of ray tracing algorithms," M. Sc. 2004.
44. Corrin Wilson, "Tracing rays through Double-Clad fibers to characterize absorption efficiency," M. Sc. 2004.
45. Iwonka Palusinski, 'Advances in Null Corrector Design and Certification,' Ph. D. Dissertation, 2003.
46. Lenny Laughlin, "Optical Source modeling," M. Sc. Report, 2003.
47. Ryan Eckman, "Lens Design Requirements for CCD Imaging," M. Sc. Thesis, 2003.
48. David Knap, "Conformal Optical Design,' Ph. D. Dissertation, 2002.
49. Matt Dubin, 'Polychromatic Image Noise in Rear Projection Screens,' Ph. D. Dissertation, 2002.
50. Holden Chase, M. Sc. 'Optical Design with Rotationally Symmetric Nurbs,' M. Sc. Thesis, 2001.
51. McCarthy, Patrick L. M. Sc. "Aspheric optics," Report, 2001.

52. Rex Kremer, M. Sc. 'Null Corrector Design for White Light Scatter-plate Interferometry on a Large Conic Surface,' M. Sc. Thesis, 2001.
53. Tony Lin, M. Sc. "Lens Design Guidelines for Coherence Studies in the Optical Design of a Lithographic System," M. Sc. Thesis, 2001.
54. Scott Lerner, 'Optical Design Using Novel Aspheric Surfaces,' Ph. D. Dissertation, 2000.
55. Rick Bomber, M. Sc. 'Design of video camera lenses,' M. Sc. Report, 2000.
56. Mike Pate, M. Sc. "Optical design of riflescopes," M. Sc. Report, 2000.
57. Scott Ellis, Ph. D., 'The Optics of Ellipsoidal Domes,' Ph. D. Dissertation, 1999.
58. Jeremie Jackson, M. Sc. "Fiber optical amplifiers," M. Sc. Report, 1999.
59. Tom Mitchel, 'Aberration Generation with Translating Aspheric Plates,' M. Sc. Thesis, 1998.
60. Rob Johnson, M. Sc., 'Influence of pupil Aberration on the Relative Illumination of Optical Systems,' M. Sc. Thesis, 1998.
61. Roland Sarlot, M. Sc., 'Design Considerations for a Virtual Reality Retinal Scanning Device,' M. Sc. Thesis, 1997
62. Scott Sparrold, M. Sc. 'Correcting Dynamic Third-Order Astigmatism in Conformal Missile Domes with Gimbaled Seekers,' M. Sc. Thesis, 1997.
63. Matt Novak, M. Sc., 'Wavefront Deformation of Conformal Surfaces,' M. Sc. Thesis, 1997.
64. Jose Torres, M. Sc. 'Opto-mechanical design of windows," M. Sc. Report, 1996.

JOURNAL PUBLICATIONS

1. D. Reshidko and J. Sasian, "Role of aberrations in the relative illumination of a lens system," - *Opt. Eng.* 55(11), 115105 (Nov 29, 2016). doi:10.1117/1.OE.55.11.115105.

2. Jose Sasian, Dmitry Reshidko, and Chia-Ling Li, "Aspheric/freeform optical surface description for controlling illumination from point-like light sources," *Opt. Eng.* 55(11), 115104 (Nov 25, 2016). doi:10.1117/1.OE.55.11.115104.
3. Sara Chamadoira, Jose Sasian, Eva Acosta, "Interferometric Local Measurements of High-Order Aberrations in Progressive Addition Lenses," *Optom. Vis. Sci.* Nov;92(11):1047-55, 2015.
4. Dmitry Reshidko, Jose Sasian, "Optical analysis of miniature lenses with curved imaging surfaces," *Appl. Opt.* Oct;54(28):E216-23, 2015.
5. Eric Herman, Jose Sasian, "Aberration considerations in lens tolerancing," *Appl. Opt.* 53(3):341. January, 2014.
6. Jose Sasian, Eva Acosta, "Generation of spherical aberration with axially translating phase plates via extrinsic aberration," *Opt. Express* 2014 Jan; 22(1):289-294.
7. Chia-Ling Li and Jose Sasian "Adaptive dispersion formula for index interpolation and chromatic aberration correction," *Opt Express* 2014 Jan; 22(1):1193-202.
8. Eva Acosta and Jose Sasian, "Micro-Alvarez lenses for a tunable-dynamic-range Shack–Hartmann wavefront sensor," *Japanese Journal of Applied Physics*, Volume 53 Number 8S2, 2014.
9. Sukmock Lee, Byongoh Kim, Jiyeon Lee, and Jose Sasian, "Accurate determination of distortion for smart phone cameras," *Applied Optics*, Vol. 53, Issue 29, pp. H1-H6 (2014)
10. Lucimara Cristina Nakata Scaduto, Jose Sasian, Mario Antonio Stefani, and Jarbas Caiado de Castro Neto, "Two-mirror telescope design with third-order coma insensitive to decenter misalignment," *Optics Express*, Vol. 21, Issue 6, pp. 6851-6865 (2013).
11. Tamer T. Elazhary, Masatsugu Nakano, and José Sasián , "Hyper numerical aperture imaging lens using a thin multi reflection Catadioptric optical element," *Optics Express*, Vol. 21, Issue 13, pp. 15809-15814 (2013).
12. Bráulio Fonseca Carneiro de Albuquerque Jose Sasian, Fabiano Luis de Sousa, and Amauri Silva Montes, "Method of glass selection for color correction in optical system design," *Optics Express*, Vol. 20, Issue 13, pp. 13592-13611 (2012).
13. Lin-Yao Liao, F.C. Bráulio de Albuquerque, Robert E. Parks and José M. Sasian, "Precision focal-length measurement using imaging Conjugates," *Optical Engineering* 113604-1 /Vol. 51(11), 2012.

14. Rania H. Abd El-Maksoud, Matthias Hillenbrand, Stefan Sinzinger and Jose Sasian, "Optical performance of coherent and incoherent imaging systems in the presence of ghost images," *Appl. Opt.* Vol. 51, No. 30 / 20, 2012.
15. Eva Acosta, and Jose Sasian, "Phase plates for generation of variable amounts of primary spherical aberration ," *OPTICS EXPRESS* Volume: 19 , Issue: 14 , Pages: 13171-13178 , JUL 4 2011.
16. Design of a wide-angle, lightweight head-mounted display using free-form optics tiling Cheng Dewen; Wang Yongtian; Hua Hong; et al. *OPTICS LETTERS* Volume: 36 Issue: 11 Pages: 2098-2100 June 2011.
17. Chun-Che Hsueh, Tamer Elazhary, Masatsugu Nakano and Jose Sasian, "Closed- form sag solutions for Cartesian oval surfaces," , *Journal of Optics* DOI: 10.1007/s12596-011-0050-0, 2011.
18. El-Maksoud R.H.A.; Sasian J., "Modeling and analyzing ghost images for incoherent optical systems," *Applied Optics* Volume: 50 Issue: 15 Pages: 2305-15 DOI: 10.1364/AO.50.002305, 20 May 2011
19. Nakazawa Takeshi; Sasian Jose; Abraham Francy, " High-speed inline profiler using a modified Fourier transform method for measuring integrated circuit surface profiles ," *Optical Engineering* Volume: 50 Issue: 5 Article Number: 053603 DOI: 10.1117/1. May 2011.
20. Hsueh, Chun-Che, Ling, Psang Dain, J. Sasián, "Worst-case-based methodology for tolerance analysis and tolerance allocation of optical systems," *Applied Optics*, v 49, n 31, p 6179-6188, 2010.
21. Chao-Wen, Liang, Ou, Chien-Fu, J. Sasian, "Phase shifting grating-slit test with a cross slit, *Optics Letters*, v 35, n 4, p 496-498, 2010.
22. Yuan, Sheng, J. Sasian, "Aberrations of anamorphic optical systems III: The primary aberrations theory for toroidal anamorphic systems," *Applied Optics*, v 49, n 35, p 6802-6807, 2010.
23. J. Sasian, "Theory of sixth-order wave aberrations," *Applied Optics*, Vol. 49, Issue 16, pp. D69-D95 (2010).

24. J. Sasian, "Erratum: Theory of sixth-order wave aberrations," *Applied Optics*, Vol. 49, n 33, pp. 5603-6503 (2010).
25. S. Yuan and J. Sasian, "Aberrations of anamorphic optical systems. II. primary aberration theory for cylindrical anamorphic systems," *Applied Optics*, v 48, n 15, p 2836-2841, May 20, 2009.
26. S. Yuan and J. Sasian, "Aberrations of anamorphic optical systems. I: The first-order foundation and method for deriving the anamorphic primary aberration coefficients," *Applied Optics*, v 48, n 13, p 2574-2584, May 1, 2009.
27. Y. Bo, Y. Wang, Y. Lie, J. Sasian, J. Koshel, "Efficient ray-tracing for free-form reflectors," *Optik*, v 120, n 1, p 40-44, January 2009.
28. L. Sukmock and J. Sasian, "Ronchigram quantification via a non-complementary dark-space effect," *Optics Express*, v 17, n 3, p 1854-1858, February 2, 2009.
29. L. Moore, A. Hvisc, and J. Sasian, "Aberration fields of a combination of plane symmetric systems" *Optics Express*, Vol. 16, Issue 20, pp. 15655-15670, (2008).
30. J. Sasian, J. Quick, J. Sheffield, J. Caudill, and P. Yantzer, "Evaluation of brilliance, fire, and scintillation in round brilliant gemstones," *Optical Engineering* (2007).
31. Chao-Wen Liang, Jose Sasian, "Geometrical optics modeling of the grating-slit test," *Optics Express* (2007).
32. B. DeBoo, J. Sasian, R. Chipman, "Depolarization of several diffusely reflecting manmade objects," *Applied Optics*, Vol. 44 Issue 26 Page 5434-5445 (2005).
33. P. Su, J. Hudman, J. M. Sasian, and W. J. Dallas, "Dual beam generation at a ray caustic by a multiplexing computer-generated hologram," *Opt. Express* 13, 4843-4847 (2005), <http://www.opticsexpress.org/abstract.cfm?URI=OPEX-13-13-4843>
34. Iwona Palusinski, Jose Sasian, "Sag and phase descriptions for null corrector certifiers," *Optical Engineering*, Vol. 43(03), p 697-701, 2004.
35. B. DeBoo, J. Sasian, R. Chipman, "Degree of polarization surfaces and maps for analysis of depolarization," *Optics Express*, Vol. 12, Issue 20, p. 4941, 2004.
36. Xuemin Cheng, Yongtian Wang, Qun Hao, Jose Sasian, "Expert system for generating initial layouts of zoom systems with multiple moving lens groups," *Optical Engineering*, Vol. 44, 2004.

37. X. Cheng, Y. Wang, Q. Hao, and J. Sasian, "Automatic element addition and deletion in lens optimization," *Appl. Opt.* Vol. 42(7), 1309-1317, 2003
38. R. Kremer, B. DeBoo, and J. Sasian, 'Null corrector design for white light scatter-plate interferometry on a large conic surface,' *Opt. Eng.* 41 (11) 2869-2875, 2002.
39. Erin M. Sabatke and Jose M. Sasian, 'Phase Theory for Multiple Aperture Systems,' *Opt. Eng.* 41(3), 647-655, March 2002.
40. Sasian J. M., Lerner S. A., Lin, T. Y., and Laughlin, L., "Ray and Van Citter-Zernike characterization of Spatial Coherence," *Appl. Opt.* 40(7), 1037-1043, March 2001.
41. Liang, C., Descour, M., Sasian, J., and Lerner, S., "Multilayer-coating-induced aberrations in extreme-ultraviolet lithography optics," *Appl. Opt.* 40(1), 129-135, January 2001.
42. Scott A. Lerner and Jose M. Sasian, 'Use of implicitly defined optical surfaces for the design of imaging and illumination systems,' *Opt. Eng.* 39(7) 1796-1801, 2000.
43. Scott A. Lerner, Jose M. Sasian, and Michael R. Descour, 'Design Approach and Comparison of Projection Cameras for EUV Lithography,' *Opt. Eng.* 39(3) 792-802, 2000.
44. Jose M. Sasian, 'Aberrations from a prism and a grating,' *Applied Optics* 39(1), 34-39, 2000.
45. José M. Sasián, Michael B. North-Morris, Geoffrey L. Wruck, Gregory A. Williby, and John E. Greivenkamp, "Rock and Roll polishing: a process for optical polishing," *Opt. Eng.* 38 (12), 2089-2092, 1999.
46. J. M. Sasian, 'Passive pupil correction as applied to annular field systems,' *Opt. Eng.* 38 (4) 646-649, 1999.
47. J. M. Sasian and M. Mansuripur, 'Design Approaches with a Lenslet Array and a Single, High-Numerical-Aperture Annular-Field Objective Lens for Optical Data Storage Systems that Incorporate Large Numbers of Parallel Read-Write-Erase Channels,' *Appl. Opt.* 38(7), 1163 – 1168, 1999.
48. Palusinski, J. M. Sasian, and J. E. Greivenkamp, 'Lateral shift variable aberration generators,' *Appl. Opt.* 38(1), 86-90, 1999.
49. J. M. Sasian and Michael Descour, 'Power distribution and symmetry in lens systems,' *Optical Engineering*, 37(3), 1001-1004, 1998.

50. J. M. Sasian, 'Annular surfaces in annular field systems,' *Optical Engineering*, 36(12), 3401-3403, 1997.
51. D. J. Reiley and J. M. Sasian, 'Optical design of a free-space photonic switching system,' *Applied Optics*. Vol. 36 (19), 4497-4504, 1997.
52. R. E. Gerber, M. Mansuripur, and J. M. Sasian, 'Versatile objective lens with adjustable correction for different wavelengths and substrate thicknesses for testing optical disks,' *Applied Optics*, 39(11), 2414-2420, 1997.
53. J. M. Sasian, 'Double-curvature Surfaces in Mirror System Design.' *Optical Engineering*, 36(1), 183-188, (1997).
54. A. L. Lentine, D. J. Reiley, R. A. Novotny, R. L. Morrison, J. M. Sasian, M. G. Beckman, D. B. Buchholz, S. J. Hinterlong, T. J. Cloonan, G. W. Richards, and F. B. McCormick, 'Asynchronous transfer mode distribution network by use of an optoelectronic VLSI switching chip,' *Applied Optics*, 36(8), 1804-1814, (1997).
55. Sasian, J. M., and Douglas A. Baillie, "Simple technique for out-of-focus feature alignment," *Opt. Eng.*, February 1995.
56. Sasian, J. M., R. A. Novotny, M. B. Beckman, S. L. Walker and S. J. Hinterlong, "Fabrication of optical fiber bundles for free-space photonic switching systems," *Opt. Eng.* Sept. (1994).
57. Sasian, J. M., "How to approach the design of a bilateral symmetrical optical system," *Opt. Eng.* June (1994).
58. McCormick, F. B., T. J. Cloonan, A. L. Lentine, J. M. Sasian, R. L. Morrison, M. G. Beckman, S. L. Walker, M. J. Wojcik, S. J. Hinterlong, R. J. Crisci, R. A. Novotny, and H. S. Hinton, "Five-stage free space optical switching network with field-effect transistor self-electro-optic-effect-device smart-pixel arrays," *Appl. Opt.* 33 (8), 1601-1618 (1994).
59. Cloonan, T. J., G. W. Richards, R. L. Morrison, A. L. Lentine, J. M. Sasian, F. B. McCormick, S. J. Hinterlong, and H. S. Hinton, "Shuffle-equivalent interconnection topologies based on computer-generated binary-phase gratings," *Appl. Opt.* 33 (8), 1405-1430 (1994).
60. Sasian, J. M., F. B. McCormick, R. Webb, R. J. Crisci, K. O. Mersereau, and R. P. Stawicki, "Design, assembly, and testing of an objective lens for a free-space photonic switching system," *Opt. Eng.* 32 (8), 1871-1878 (1993).

61. Sasian, J. M. and R. A. Chipman, "The staircase lens: a diffractive field curvature corrector," *Appl. Opt.* 22 (1), 66-66 (1993).
62. McCormick, F. B., T. J. Cloonan, F. A. P. Tooley, A. L. Lentine, J. M. Sasian, J. L. Brubaker, R. L. Morrison, S. L. Walker, R. J. Crisci, R. A. Novotny, S. J. Hinterlong, H. S. Hinton, and E. Kerbis, "Six-stage digital free-space optical switching network using symmetric self-electro-optic-effect devices," *Appl. Opt.* 32 (26), 5153-5171 (1993).
63. McCormick, F. B., F. A. P. Tooley, T. J. Cloonan, J. M. Sasian, and H. S. Hinton, "Optical interconnections using microlens arrays," *Optical and Quantum Electronics* 24, S465-S477 (1992).
64. McCormick, F. B., F. A. P. Tooley, J. L. Brubaker, J. M. Sasian, T. J. Cloonan, A. L. Lentine, R. L. Morrison, R. J. Crisci, S. L. Walker, S. J. Hinterlong, and M. J. Herron, "Design and Tolerancing comparisons for S-seed-based free-space switching fabrics," *Opt. Eng.* 31 (12), 2667-2711 (1992).
65. McCormick, F. B., F. A. P. Tooley, T. J. Cloonan, J. L. Brubaker, A. L. Lentine, R. L. Morrison, S. J. Hinterlong, M. J. Herron, S. L. Walker, and J. M. Sasian, "Experimental investigation of a free-space optical switching network by using symmetric self-electro-optic-effect devices," *App. Opt.* 31 (28), 5431-5446 (1992).
66. Sasian, J. M., "Image plane tilt in optical systems," *Opt. Eng.* 31 (3), 527-532 (1992).
67. Sasian, J. M., "Four-mirror optical system for large telescopes," *Opt. Eng.* 29 (10), 1181-1185 (1990).
68. McCormick, F. B., F. A. P. Tooley, J. M. Sasian, J. L. Brubaker, A. L. Lentine, T. J. Cloonan, R. L. Morrison, S. L. Walker, and R. J. Crisci, "Parallel interconnection of two 64 x 32 symmetric self electro-optic effect device arrays," *Electron. Lett.* 27 (20), 1869-1871 (1991).
69. Sasian, J. M., "Design of a Schwarzschild flat-field, anastigmatic, unobstructed, wide-field telescope," *Opt. Eng.* 29 (1), 1-5 (1990).
70. Sasian, J. M., "Design of null lens correctors for the testing of astronomical optics," *Opt. Eng.* 27 (12), 1051-1056 (1988).
71. Sasian, J. M., "Flat-field, anastigmatic, four-mirror optical system for large telescopes," *Opt. Eng.* 26 (12), 1197-1199 (1987).

72. Jacobs, S. F., S. C. Johnston, J. M. Sasian, M. Watson, J. D. Tagorve, and D. Bass, "Surface figure changes due to thermal cycling hysteresis," *App. Opt.* 26 (10), 4438-4442 1987.
73. Noble, R., F. Cobos, F. Diego, and J. Sasian, "Optical characteristics of the UNAM 2-M Ritchey-Chretien telescope," *Appl. Opt.* 17 (9), 3181-3183 (1982).

BOOKS

Jose Sasian, "Introduction to Aberrations in Optical Imaging Systems," Cambridge University Press, 2013.

BOOKS (Proceedings)

1. J. Sasian, R. Youngworth, 'Optical System Alignment, Tolerancing, and Verification IX,' *Proceedings SPIE*, Vol. 9951, 2016.
2. J. Sasian, R. Youngworth, 'Optical System Alignment, Tolerancing, and Verification IX,' *Proceedings SPIE*, Vol. 9582, 2015.
3. J. Sasian, R. Youngworth, 'Optical System Alignment, Tolerancing, and Verification VIII,' *Proceedings SPIE*, Vol. 8844, 2014.
4. J. Sasian, R. Youngworth, 'Optical System Alignment, Tolerancing, and Verification VII,' *Proceedings SPIE*, Vol. 8844, 2013.
5. J. Sasian, R. Youngworth, 'Optical System Alignment, Tolerancing, and Verification VI,' *Proceedings SPIE*, Vol. 8491, 2012.
6. J. Sasian, R. Youngworth, 'Optical System Alignment, Tolerancing, and Verification V,' *Proceedings SPIE*, Vol. 8131, 2011.
7. J. Sasian, R. Youngworth, 'Optical System Alignment, Tolerancing, and Verification IV,' *Proceedings SPIE*, Vol. 7793, 2010
8. J. Sasian, R. Youngworth, 'Optical System Alignment, Tolerancing, and Verification III,' *Proceedings SPIE*, Vol. 7433, 2009.
9. J. Sasian, R. Youngworth, 'Optical System Alignment and Tolerancing II,' *Proceedings SPIE*, Vol. 7068, 2008.

10. J. Sasian, Mitchell Ruda, “Optical System Alignment and Tolerancing,” SPIE Proceedings SPIE Vol. 6676, 2007
11. J. M. Sasian, Mary Turner, ‘Novel Optical Systems Design and Optimization IX,’ Proceedings SPIE, Vol. 6289, 2006.
12. J. M. Sasian, R. John Koshel, and Richard Juergens, ‘Novel Optical Systems Design and Optimization VIII,’ Proceedings SPIE, Vol. 5875, 2005.
13. J. M. Sasian, R. John Koshel, Paul Manhart, and Richard Juergens, ‘Novel Optical Systems Design and Optimization VII,’ Proceedings SPIE, Vol. 5524, 2004.
14. J. M. Sasian, R. John Koshel and Paul Manhart, ‘Novel Optical Systems Design and Optimization VI,’ Proceedings SPIE, Vol. 5174, 2003.
15. International Optical Design Conference 2002, Paul K. Manhart, Jose M. Sasian, Eds. Proceedings of SPIE Volume: 4832, 2002.
16. Novel Optical Systems Design and Optimization V, Proceedings of SPIE Volume: 4768, Editor(s): Sasian, Jose M.; Koshel, R. John, 2002.
17. Novel Optical Systems Design and Optimization IV, Proceedings of SPIE Volume: 4442 Editor(s): Sasian, Jose M.; Manhart, Paul K., 2001.
18. Novel Optical Systems Design and Optimization III, Proceedings of SPIE Volume: 4092 Editor(s): Sasian, Jose M.; 2000.
19. Novel Optical Systems and Large-Aperture Imaging, Proceedings of SPIE Volume: 3430, Editor(s): Bell, Kevin D.; Powers, Michael K.; Sasian, Jose M. 1998.
20. Novel Optical Systems Design and Optimization, Proceedings of SPIE Volume: 2537, Editor(s): Sasian, Jose M. 1995.

PAPERS IN PROCEEDINGS

1. José Sasián, “Field Curvature Aberration,” *Proc. SPIE* 9293, International Optical Design Conference 2014, 929322 (December 17, 2014); doi:10.1117/12.2075938.
2. Dmitry Reshidko and José Sasian, “Algorithms and examples for chromatic aberration correction and athermalization of complex imaging systems,” *Proc. SPIE* 9293,

- International Optical Design Conference 2014, 92931K (December 17, 2014); doi:10.1117/12.2072655.
3. Mamoru Miyawaki, Dmitry Reshidko, Nasser Peyghambarian and Jose Sasian, "A multi-aperture imager for a wearable camera," *Proc. SPIE* 9293, International Optical Design Conference 2014, 92930H (December 17, 2014); doi:10.1117/12.2073335.
 4. Eric Herman, Richard N. Youngworth, and Jose M. Sasian, "Efficient Assessment of Lens Manufacturability in Optical Design," *International Optical Design Conference Proc. SPIE* 9293, International Optical Design Conference 2014, 929318 (December 17, 2014); doi:10.1117/12.2072553.
 5. Jose Sasian, "Polarization fields for understanding polarization aberrations in optical imaging systems," *Proc. SPIE* 8841, Current Developments in Lens Design and Optical Engineering XIV, 2013.
 6. S. Chamadoira, J. Sasian, and E. Acosta, "Modified point diffraction interferometer to evaluate tolerances in the design of progressive addition lenses," *Proc. SPIE*. 8844, Optical System Alignment, Tolerancing, and Verification VII :88440D. (September 10, 2013).
 7. Eric Herman, Jose Sasian, Richard N. Youngworth, "Optomechanical considerations for realistic tolerancing," *Proc. SPIE* 8844, Optical System Alignment, Tolerancing, and Verification VII, 884402 (September 10, 2013).
 9. Dmitry Reshidko and Jose Sasian, "Method of calculation and tables of optothermal coefficients and thermal diffusivities for glass," *Proc. SPIE* 8844, Optical System Alignment, Tolerancing, and Verification VII, 884407 (September 19, 2013).
 10. Braulio de Albuquerque B.F.C.; Lin-Yao Liao; Silva Montes A, Jose Sasian, "A multi-objective approach in the optimization of optical systems taking into account tolerancing," *Optical System Alignment, Tolerancing, and Verification V*, San Diego, CA, USA, 21-22 Aug.2011. *Proceedings of the SPIE*, Volume: 8131 Pages: 813105 DOI: 10.1117/12.894980 Published: 01 2011.
 11. Mateen, M, Guyon O.; Sasian J.; et al., "A non-linear curvature wavefront sensor reconstruction speed and the broadband design," *Conference: Astronomical Adaptive Optics Systems and Applications IV* Location: San Diego, CA, USA Date: 21-24 Aug. 2011 Source: *Proceedings of the SPIE - The International Society for Optical*

Engineering Volume: 8149 Pages: 814909 (12 pp.) DOI: 10.1117/12.894311
Published: 01 2011 XIII.

12. Sasian, Jose, "Sixth-order wavefront deformations: The coefficients and insights into wavefront propagation in optical systems." *Proceedings of SPIE - The International Society for Optical Engineering*, v 7652, 2010, *International Optical Design Conference 2010*.
13. Wang, Lirong, Sasian, Jose M. "Merit figures for fast estimating tolerance sensitivity in lens systems," *Proceedings of SPIE - The International Society for Optical Engineering*, v 7652, 2010, *International Optical Design Conference 2010*
14. Wang, Lirong, Su, Peng; Parks, Robert; Angel, Roger; Sasian, Jose; Burge, James "A low-cost, flexible, high dynamic range test for free-form illumination optics," *Proceedings of SPIE - The International Society for Optical Engineering*, v 7652, 2010, *International Optical Design Conference 2010*.
15. Han, Jeong-Yeol, Sasian, Jose, González, Jesús "Conic constant trade-off study in Cassegrain type telescopes with a field corrector," *Proceedings of SPIE - The International Society for Optical Engineering*, v 7787, 2010, *Novel Optical Systems Design and Optimization XIII*.
16. T. Nakazawa, J. Sasian, and F. Abraham,, "Fast Optical Profiler," "Optical Fabrication and Testing," OSA Technical Digest (CD) (Optical Society of America, 2010), paper OMB4, 2010.
17. J. Sasian, "Optical Design of reflective wide-field cameras," SPIE Proc. 7060, 70600C (2008).
18. P. Su, J. Burge, B. Cuerden, J. Sasian, and H. Martin, "Scanning Penta-prism measurements of off-axis aspherics, SPIE Proc. Vol. 7018, 70183T, (2008).
19. Jorge Castro-Ramos and Jose Sasian, "Automatic phase-shifting Ronchi tester with a square Ronchi ruling," Eighth International Conference on Laser and Laser Information Technologies. Edited by Panchenko, Vladislav Y.; Sabotinov, Nikola V. Proceedings of the SPIE, Volume 5532, pp. 199-210 (2004).
20. Jose M. Sasian, 'Trends in teaching lens design,' Proc. SPIE Vol. 4588, p. 56-58, Seventh International Conference on Education and Training in Optics and Photonics, Tuan K. Lim; Arthur H. Guenther; Eds. 2002.
21. Brian J. DeBoo and Jose M. Sasian, "Novel method for precise focal length measurement," SPIE Proceedings Vol. 4832, 114-121, 2002.

22. Lenny Laughlin and Jose M. Sasian, "Source modeling and calculation of mask illumination during extreme ultraviolet lithography condenser design," SPIE Proceedings Vol. 4832, 283-292, 2002.
23. Sabatke, E. and Sasian J., "Second-order phase theory in multiple-aperture systems," Proc. SPIE Vol. 4006, p. 1083-1089, 2002.
24. H. M. Martin, J. R. P. Angel, J. H. Burge, S. M. Miller, J. M. Sasian and P. A. Strittmatter, "Optics of the 20/20 telescope," SPIE Proc. on *Future Giant Telescope*, eds. J. R. P. Angel and R. Gilmozzi, 4840, Kona, HI, 2002.
25. H. M. Martin, R. G. Allen, J. H. Burge, L. R. Dettmann, D. A. Ketelsen, S. M. Miller and J. M. Sasian, "Fabrication of mirrors for the Magellan Telescopes and the Large Binocular Telescope", *Large Ground-based Telescopes*, ed. J. M. Oschmann and L. M. Stepp, Proc. SPIE 4837, (2002).
26. Marushin, Patrick H., Sasian, J. M., Lin, Tony Y., Greivenkamp, John E., Lerner, Scott A., Robinson, Barry, Askinazi, Joel, 'Demonstration of a conformal window imaging system: design, fabrication, and testing,' Proc. SPIE Vol. 4375, 154-159, 2001.
27. R. M. Kremer, B. J. DeBoo, J. M. Sasian, 'Null corrector design for white light scatterplate interferometry on a large conic surface,' Proc. SPIE Vol. 4442, 26-33, 2001.
28. E. Sabatke and J. Sasian 'Phase theory for multiple aperture systems,' SPIE Annual Meeting, Proc. SPIE 4091 , 6-17, 2000.
29. S. Clarke, J. Greivenkamp, R. Richard, and J. Sasian, 'Optical reference profilometry,' OSA, Optical Conformal Windows,"*Proc. 8th DoD Electromagnetic Windows Symp.*, U.S. Air Force Academy, CO, April 2000.
30. Lerner, S.A. and J. M. Sasian, "Optical Design Using Novel Aspheric Surfaces", SPIE Annual Meeting, San Diego, Proc. SPIE 4092, 17-25, August 2000.
31. Lerner, S.A and J.M. Sasian, "Novel Surface Representation for Conformal Optics", Proceedings of the 8 th DoD Electromagnetic Windows Symposium, U.S. Air Force Academy, CO pp. 260-266, April 2000.
32. Lerner, S.A., A. Gupta, J.M. Sasian, and J.E. Greivenkamp, "The Use of Implicitly Defined Aspheric Null Correctors for the Testing of Conformal Optical Elements," in *Optical Fabrication and Testing*, OSA Technical Digest, 103-105 (OSA, Washington, D.C. 2000).

33. Smith, D.G., J.E. Greivenkamp, R. Gappinger, G. Williby, P. Marushin, A. Gupta, S.A. Lerner, S. Clark, J. Lee and J. Sasian, "Infrared Shack-Hartmann Wavefront Sensor for Conformal Dome Metrology," in *Optical Fabrication and Testing*, OSA Technical Digest, 109-111 (OSA, Washington, D.C. 2000).
34. Jose M. Sasian, Scott A. Lerner, James H. Burge, Hubert M. Martin, "Design, tolerancing, and certification of a null corrector to test 8.4-m mirrors," Proc. SPIE Vol. 3739, 444-448, 1999.
35. Jose M. Sasian, Scott A. Lerner, James H. Burge, "Certification of a null corrector via a diamond-turned asphere: design and implementation," Proc. SPIE Vol 3749, 284-285, 1999.
36. S. Lerner, J. Sasian, J. Greivenkamp, R. Gappinger, S. Clark, "Interferometric metrology of conformal domes," Proc. SPIE 3705 221-226, 1999.
37. M. Descour, M. Willer, D Clarke, J. Sasian, "EUVL projection-camera alignment methods," Proc. SPIE 3676, 663-668, 1999.
38. K. Bell, M. Powers, J. Sasian, "Novel Optical Systems and Large-Aperture Imaging," Proc. SPIE 3430, 1998.
39. Sasian, J. M., 'New developments in the design of ring-field projection cameras for EUV lithography: passive pupil correction,' Proc. SPIE Vol. 3482, p. 658-663, International Optical Design Conference 1998, Leo R. Gardner; Kevin P. Thompson; Eds., 1998.
40. Palusinski, Iowna A., Sasian, Jose M., Greivenkamp, John E., 'Lateral shift variable aberration generators,' Proc. SPIE Vol. 3482, p. 96-98, International Optical Design Conference 1998, Leo R. Gardner; Kevin P. Thompson; Eds. 1998.
41. T. Mitchell and J. Sasian, "Variable aberration correction using axially translating phase plates," Proc. SPIE Vol. 3705, 209-220, 1999.
42. M. Chang, and J. Sasian, "Variable Spherical Aberration Generators," SPIE Proceedings, Vol 3129, 1997.
43. D.J. Reiley, M.G. Beckman, and J. M. Sasian, 'Optomechanical design for free-space optical switching,' in Optoelectronic Packaging, M. R. Feldman and Y-C Lee. eds., Proc. SPIE Vol. 2691, 84-90, 1996.
44. A. L. Lentine, D.J. Reiley, R.A. Novotny, R.L. Morrison, J.M. Sasian, M.G. Beckman, D.B. Bucholz, S.J. Hinterlong, T.J. Cloonan, G.W. Richards, and F.B. McCormick,

- "Optoelectronic ATM Switch employing hybrid silicon CMOS/GaAs FET-SEED's," in *Optical Interconnects in Broadband Switching Architectures*, T.J. Cloonan, Editor, Proc. SPIE 2692, (1996).
45. D.J. Reiley, M.G. Beckman, and J. M. Sasian, "Optical Engineering of photonic switching systems," Proc. SPIE 2863, 379-385, *Current Developments in Optical Design and Engineering VI*, Robert E. Fischer; Warren J. Smith; Eds., 1996.
46. McCormick, F. B., F. A. P. Tooley, J. L. Brubaker, J. M. Sasian, T. J. Cloonan, A. L. Lentine, R. L. Morrison, R. J. Crisci, S. L. Walker, S. J. Hinterlong, and M. J. Herron, "Optomechanics of a free-space photonic switching fabric: the system," SPIE 1533, *Optomechanics and Dimensional Stability*, 97-114 (1991).
47. Brubaker, John L., McCormick, Frederick B., Tooley, Frank A., Sasian, Jose M., Cloonan, Thomas J., Lentine, Anthony L., Hinterlong, Stephen J., Herron, Michael, J., 'Optomechanics of a free-space photonic switch: the components,' Proc. SPIE Vol. 1533, 88-96, 1991.
48. McCormick, F. B., F. A. P. Tooley, T. J. Cloonan, J. M. Sasian, and H. S. Hinton, "Microbeam optical interconnections using microlens arrays," *OSA Proceedings on Photonic Switching* 8, 90-96 (1991).
49. McCormick, J. M. Sasian, Crisci, Randall J., Morrison, Rick L., Tooley, Frank A., Kerbis, Esther, Walker, Sonya L., 'Fabrication and testing issues in free-space digital optical switching and computing (Invited Paper),' Proc. SPIE Vol. 1720, p. 553-572, *Intl Symp on Optical Fabrication, Testing, and Surface Evaluation*, Jumpei Tsujiuchi; Ed. 1994.
50. Sasian, J. M., 'Image plane tilt in optical systems,' Proc. SPIE. Vol. 1527, p. 85-95, *Current Developments in Optical Design and Optical Engineering*, R. E. Fischer, W. J. Smith, Eds., 1991.
51. McCormick, F. B., F. A. P. Tooley, T. J. Cloonan, J. L. Brubaker, A. L. Lentine, R. L. Morrison, S. J. Hinterlong, M. J. Herron, S. L. Walker, and J. M. Sasian, "S-seed based photonic switching network demonstration," *OSA Proceedings on Photonic Switching* 8, 48-55, (1991).
52. Sasian, J. M., "Optimum configuration of the Offner null corrector: Testing an F/1 paraboloid," *Proceedings on Surface Characterization and Testing II*, J.E. Greivenkamp editor, SPIE 1164, (1989).

53. Sasian, J. M. "Review of methods for the design of unsymmetrical optics," SPIE Proceedings on Optical Engineering Midwest'90 1396, 453-466 (1991).
54. Jacobs, S. F., Johnston, S. C., Sasian, J. M., Watson, M., Targove, J. D., 'Changes in surface figure due to thermal hysteresis,' Proc. SPIE 1246, 193-203, 1987.

PATENTS

1. Optical System with Catadioptric Optical Subsystem, U.S. Patent 9,341,831, 2016.
2. Catadioptric optical system with total internal reflection for high numerical aperture imaging, U.S. Patent 8,947,775, 2015.
3. Systems and methods for the evaluation of scintillation in gemstones. US Patent 8,098,369, 2012.
4. Methods, apparatus, and systems for evaluating gemstones, USP 7,580,118, 2010.
5. Systems and methods for ray tracing Patent US 7,751,034, 2010.
6. Efficient EUV collector designs, USP 7,405,871, 2009.
7. Systems and methods for evaluating and displaying the dispersion of a diamond or other gemstone, USP 7,355,683, 2008.
8. Methods and apparatus, and system for evaluating gemstones, USP 7,382,445, 2008.
9. Methods and apparatus, and system for evaluating gemstones, USP 7,372,552, 2008.
10. Methods and apparatus, and system for evaluating gemstones, USP 7,336,347, 2008.
11. Shaped source of soft x-ray, extreme ultraviolet and ultraviolet radiation, USP 6,307,913, 2001.
12. Optical fiber bundle and method for manufacturing. USP 5,394,498, 1995.
13. Objective lens for a free-space photonic switching system. USP 5,353,164, 1994.
14. Powerless field corrective lens. USP 5,153,778, 1992.

ARTICLES

1. D. Reshidko and J. Sasian, "Current trends in miniature camera lens technology," 19 February 2016, SPIE Newsroom. DOI: 10.1117/2.1201602.006327.
2. J. Sasian, "Light Performance Evaluation of a Square Brilliant Cut," <http://www.americangemsociety.org/light-performance-evaluation-of-a-square-brilliant-cut> 2014.
3. D. Cheng, Y. Wang, H. Hua, and J. Sasian, "Optical Design: Free-form optics enable lightweight head-mounted displays," Laser Focus World, April, 2012.
4. Sasian, J. M., Peter Yanzer, Tom Tivol, "The optical design of Gemstones," Optics and Photonics News, April 2003.
5. Sasian, J. M. "Spherical and Cylindrical Lenses," Encyclopedia of Optical Engineering, Marcel Dekker, 2003.
6. Sasian, J. M. "Optical Prism," *McGraw-Hill Encyclopedia of Science and Technology*, 9th Edition.
7. Sasian, J. M. "Optimal polish for telescope mirrors," Sky & Telescope, May 2000.
8. Sasian, J. M. "Non-rotationally symmetric optics proliferate," Laser Focus World, S5-10, July 1999.
9. Sasian, J. M. "Compatibility marks software's success," Photonics Spectra, January 1998.
10. Sasian, J. M., "A Breakthrough in the Design of Unobstructed Telescopes," Sky & Telescope, p. 114, November 1997.
11. Sasian, J. M., "The Telescope," Macmillan Encyclopedia of Physics, Vol. 4, 1572-1575, (1996).
12. Sasian, J. M., "The world of unobstructed reflecting telescopes," Journal of the Amateur Telescope Makers 1, Fall 1992.
13. Sasian, J. M., "An unobstructed Newtonian telescope," Sky & Telescope, March 1991.

14. Sasian, J. M., "Variations on the Schiefspiegler," Telescope Making 43, 1990.
15. Sasian, J. M., "How to make an unobstructed Yolo-Newtonian telescope," Telescope Making 38 1989.
16. Sasian, J. M., "How to design a Yolo telescope," Telescope Making 37 1989.
17. Sasian, J. M., "A practical Yolo telescope, Sky & Telescope, August 1988.