CURRICULUM VITAE

JOSE SASIAN

CONTACT INFORMATION

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PROFESSIONAL AND RESEARCH INTERESTS

Education and teaching optical sciences. Optical engineering in general. 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

- Committee member of OSA Kevin Thompson Award, 2018-2019
- Committee member, evaluation of the School of Opto-electronics at the Beijing Institute of Technology, 2017.
- Chair, "Optical System Alignment, Tolerancing and verification" SPIE Conference, 2007-2019
- 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
- Kosta Cloud, Technical Advisory Board Member, 2023.

PROFESSIONAL AFFILIATIONS

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

OPTICS COURSES

- Lens Design OPTI-517 (1997-present)
- Introduction to Aberrations OPTI-518 (2005-present)
- Optical Shop Practices OPTI-597A (1996-present)
- Optical Specifications, fabrication and testing, OPTI-415 (2023,2024)

- Advanced Lens Design OPTI-696A (2008, 2012, 2017, 2018, 2024)
- Introduction to Opto-Mechanical Design OPTI-690 (1996-2000)
- Illumination optics Seminar (1997-2000)

SPECIAL COURSES

- Advanced Lens Design, CORE Utsonomya University, Japan 2014.
- Advanced Lens Design, CORE Utsonomya University, Japan 2016
- Advanced Lens Design, CORE Utsonomya University, Japan 2017
- Lens Design, LAPAN, Indonesia, 2017.
- Optical Engineering, Photonic Sensors and Algorithms, Spain, 2017
- Mirror System Design with Freeform Surfaces, SPIE 2019, 2024.

GRADUATED STUDENTS 1996-2024

1. Juan Bravo, M. Sc. Report, Machine vision, lenses and techniques, 2024

2. Guiseppe Lo Voi, M.Sc. Report, SHAPE FACTOR IMPACT ON SIXTH ORDER STRUCTURAL ABERRATION COEFFICIENTS, 2024.

3. Emily Mrkvicka, M. Sc. Report, DESIGN AND ALIGNMENT OF A THREE-MIRROR ANASTIGMAT, 2024.

4. Tyler Peterson, Ph.D. Dissertation, "Optical Design and Analysis with Structural Aberration Coefficients", 2024.

5. Maddy Jaeger Childs, M.Sc. Report, STRUCTURAL, THERMAL, AND OPTICAL PERFORMANCE ANALYSIS. 2024.

6. Joel D. Smith, M.Sc., Report, "Windshield characterization", 2024.

7. Bethany Larson, "ANALYSIS OF MICROLITHOGRAPHY LENSES DESIGNED BY ERHARD GLATZEL." Master's Report, 2023.

8. Sze Wah Lee, "Monte Carlo Analysis of Encircled and Ensquared Energy Variability with RMS Wavefront Error," M. Sc. Thesis 2023.

9. William Hicks, M. Sc. Thesis, 2022.

10. Chia-Ling Li, "An adaptive dispersion formula for chromatic aberration correction and polarization aberration analyses in plane symmetric optical systems," Ph. D. Dissertation, 2021.

11. Luc Giles, "Lens design with aspheric and freeform mirrors," Master's thesis, 2021.

12. Ross T. Terrill, "Telecentric Zoom Lens," M. Sc. Thesis 2020.

13. Luc Giles, "Lens design with aspheric and freeform mirrors," M. Sc. 2020 Thesis

14. Hsuan-Mao Jian, "Study of Tolerance Analysis for Mobile Phone Lenses," M.Sc. 2020, Thesis:

15. Zhenye Li, "Study of Fisheye Lens Attachments for Mobile Phone Lenses," M.Sc., 2019.

16. Vanesa Ayala-Miranda, "Report for Aberrations as Functions of the Shape Factor, Conjugate Factor, and Index of Refraction," M.Sc., 2019.

17. Timothy Johnson, "Optical System Design and Distortion Control of Wide Field of View, All-Reflective Imagers," Ph.D. 2019.

18. Wei-Cheng Lai, "Designing a 3D Confocal System," M.Sc. 2019.

19. Xi Zhou, "A 7.5X Afocal Zoom Lens Design and Kernel Aberration Correction Using Reversed Ray Tracing Methods," M.Sc., 2019.

20. Yufeng, Yan, "Selected Topics in Novel Optical Design," Ph.D., 2019.

21. Alex Felli, "Folded fisheye lens design for compact 360-dgree virtual reality camera," M.Sc. 2018.

22. Slater Kirk, "Astigmatism in systems with double plane symmetry," M.Sc. 2018.

23. Ying Ting Liu, "Review and Design of a Mobile Phone Camera Lens for 21.4 Mega-Pixels Image Sensor," M. Sc. Report, 2017.

24. Haosheng Hu, "Report for Reflective System Designs Based on Freeform Mirrors," M. Sc. Thesis, 2017.

25. Luxin Nie, "Patent Review of Miniature Camera Lenses," M. Sc. Report, 2017.

26. Clarissa Kenney Wylde, "The Art of Optical Aberrations," M. Sc. Thesis, 2017.

27. Ruijuan Niu, "Overview of Microscope Objective Design," M. Sc. Thesis, 2017.

28. Yufeng Yan, M. Sc. Thesis, "Photographic Fisheye Lens Design for 35 mm Format Cameras," 2016.

29. Jesse Ball, M.Sc. Thesis, "NCPA Optimizations at Gemini North using Focal Plane Sharpening," 2016.

30. Gong Chen, M. Sc. Report "Design of a large a large working are F-theta lens," 2016.

31. Emily Heaton, M.Sc. Report, "Interferometric Methods for Aligning and Measuring Test Surfaces," 2016.

32. Andrew McCarron, M.Sc. Report, "Long wave infrared scan lens design and distortion correction," 2016.

33. Taylor Davis Sorensen, M.Sc. "SWIR/MWIR Objective Lens," Report 2016.

34. Rhiannon Katarina Jenkins, M.Sc. "MTF Lens Evaluation," Report 2016.

35. Dmitry Reshidko, Ph.D. "Topics in Modern Lens Design," Dissertation, 2016

36. Douglas, "Shadow Imaging of Geosynchronous Satellites," Ph.D. Dissertation 2014.

37. Lori Ann Moore, "Plenoptic Cameras, Shack-Harman Wavefront Sensors, and Related Lens Array Based Optical Systems," Ph.D. Dissertation 2014.

38. Yuhao Wang, "Advanced Theory of Field Curvature." Ph.D. Dissertation 2014.

39. Adam Persia, M. Sc. Report 2014.

40. Eric Herman, M. Sc Report 2014.

41. Akash Arora, M. Sc. Report 2014.

42. Mary Liang, Design of Custom Chromatic Reimaging Optics," Ms. Sc. Thesis 2013.

43. Oscar Martinez, "A Systematic Approach to Glass Selection for Complex Optical Systems." Ms. SC. Thesis 2012.

44. Takashi Nakazawa, "Optical profilers," Ph. D. Dissertation 2011.

45. Manit M. Limlamai, " Optical systems in microlithography," M. Sc. Report 2011.

46. Lirong Wang, "Design, modeling, and testing of optical surfaces in illumination optics," Ph. D. Dissertation, 2010.

47. Stacy Munger, "Spherical Aberration Study," M. Sc. Thesis, 2010.

48. Rong Lui, M. Sc. Report, 2010.

49. Ernest Fasse, "Image Motion Compensation," M. Sc. Report, 2010.

50. Cheng Kuei-Yeh, "Cell phone zoom lens design and patent research," M. Sc. Report, 2010.

51. Rania Abd El-Maksoud, "Ghost image analysis in Optical Systems," Ph.D. Dissertation, 2009.

52. Ralph Shepard, "Optical Design with Negative Index Materials," Ph. D. Dissertation, 2009.

53. Gerard Desroches, "Optical Design with Liquids," M. Sc. Report 2009.

54. Ryan Irving, "Optical Systems Design Considerations for Infrared Applications," M. Sc. Report, 2009.

55. Rachel Haynes, "Transferring FEA results into an optical design program," M. Sc. Report 2009.

56. Tim Johnson, "Optical design and analysis of an X-ray telescope and reflection grating spectrometer system," M. Sc. Report 2009.

57. Jacob Egan, "Design of a space-based optical camera for an asteroid sample return mission," M. Sc. Report, 2009.

58. Sheng Yuan, "Aberrations of Anamorphic Optical Systems," Ph. D. Dissertation. 2008.

59. Rob Bates, "Design for Fabrication: Miniature Camera Lens Case Study," M. Sc. Report, 2008.

60. Alice Palmer, "Multiple Aperture Telescope Collector Considerations," M. Sc. Report, 2008.

61. Ming Lie, "Optics Industry Comparison between United States of America and People's Republic of China, M. Sc. Report 2008.

62. George Duckett, "Fourth and Sixth-Order wavefront aberrations of common lens systems," M. Sc. Report, 2008.

63. Andrei Kazmierski, "Design and analysis of a confocal microscope utilizing and incoherent light source and reflective spatial light modulator," M. Sc. Thesis 2008.

64. Jay Perlin, "Recent developments in optical fabrication," M. Sc. Report, 2007.

65. Chao-Wen Liang, "The grating-slit test," Ph. D. Dissertation, 2006.

66. Stevie Smith, "Examples of Lens Behavior Statistics under Fabrication Errors. M. Sc. Thesis, 2006.

67. Robert Sprowl, "Optical Testing," M. Sc. Report, 2006.

68. Kevin O'Shea, Lens Design Approach to Optical Relays," M. Sc. Thesis, 2005.

69. Josh Hudman, "Analysis of an Off-Axis Null Corrector and the Characterization of a 1 Meter Liquid Flat, M. Sc. 2005.

70. Marguerite Green, "History of ray tracing algorithms," M. Sc. 2004.

71. Corrin Wilson, "Tracing rays through Double-Clad fibers to characterize absorption efficiency," M. Sc. 2004.

72. Iwonka Palusinski, 'Advances in Null Corrector Design and Certification,' Ph. D. Dissertation, 2003.

73. Lenny Laughlin, "Optical Source modeling," M. Sc. Report, 2003.

74. Ryan Eckman,"Lens Design Requirements for CCD Imaging," M. Sc. Thesis, 2003.

75. David Knap, "Conformal Optical Design,' Ph. D. Dissertation, 2002.

76. Matt Dubin, 'Polychromatic Image Noise in Rear Projection Screens,' Ph. D. Dissertation, 2002.

77. Holden Chase, M. Sc. 'Optical Design with Rotationally Symmetric Nurbs,' M. Sc. Thesis, 2001.

78. McCarthy, Patrick L. M. Sc. "Aspheric optics," Report, 2001.

79. Rex Kremer, M. Sc. 'Null Corrector Design for White Light Scatter-plate Interferometry on a Large Conic Surface,' M. Sc. Thesis, 2001.

80. Tony Lin, M. Sc. "Lens Design Guidelines for Coherence Studies in the Optical Design of a Lithographic System," M. Sc. Thesis, 2001.

81. Scott Lerner, 'Optical Design Using Novel Aspheric Surfaces,' Ph. D. Dissertation, 2000.

82. Rick Bomber, M. Sc. 'Design of video camera lenses,' M. Sc. Report, 2000.

83. Mike Pate, M. Sc. "Optical design of riflescopes," M. Sc. Report, 2000.

84. Scott Ellis, Ph. D., 'The Optics of Ellipsoidal Domes,' Ph. D. Dissertation, 1999.

85. Jeremie Jackson, M. Sc. "Fiber optical amplifiers," M. Sc. Report, 1999.

86. Tom Mitchel, 'Aberration Generation with Translating Aspheric Plates,' M. Sc. Thesis, 1998.

87. Rob Johnson, M. Sc., 'Influence of pupil Aberration on the Relative Illumination of Optical Systems,' M. Sc. Thesis, 1998.

88. Roland Sarlot, M. Sc., 'Design Considerations for a Virtual Reality Retinal Scanning Device,' M. Sc. Thesis, 1997

89. Scott Sparrold, M. Sc. 'Correcting Dynamic Third-Order Astigmatism in Conformal Missile Domes with Gimbaled Seekers,' M. Sc. Thesis, 1997.

90. Matt Novak, M. Sc., 'Wavefront Deformation of Conformal Surfaces,' M. Sc. Thesis, 1997.

91. Jose Torres, M. Sc. 'Opto-mechanical design of windows," M. Sc. Report, 1996.

JOURNAL PUBLICATIONS

1. Tyler Peterson, José Sasián, "General analysis of freeform two-mirror telescopes," Opt. Eng. 63(4) 045104 (18 April 2024) https://doi.org/10.1117/1.OE.63.4.045104

2. Shengtai Zhu, José Sasián, and David J. Brady, "Multifocal array camera system design," Appl. Opt. 63, 6553-6559 (2024)

3. José Sasián "Teaching lens design: characteristics and control of oblique spherical aberration," *Optical Engineering* 63(7), 071402 (5 February 2024). https://doi.org/10.1117/1.OE.63.7.071402

4. José Sasián, "Lens design with achromatic doublets," Proc. SPIE 12798, International Optical Design Conference 2023, 127981E (14 September 2023); https://doi.org/10.1117/12.2692119

5. Tyler Peterson, José Sasián, "Structural aberration coefficients for freeform imaging systems," Opt. Eng. 62(3) 035104 (27 March 2023) https://doi.org/10.1117/1.OE.62.3.035104

6. Jose Sasian, "Simple and Accurate method for determining lens focal length," Optical Engineering 62(3), 034108, 2023.

7. T. Peterson and Jose Sasian, "Structural aberration coefficients for freeform imaging systems," Optical Engineering 62(3), 035104, 2023.

8. José Sasián, "Some displays of lens structural performance," Appl. Opt. 61, A22-A27 (2022).

9. Jose Sasian, "Lens desensitizing: theory and practice," Appl. Opt. 61, A62-A67 (2022).

10. José Sasián, David Brady, "Lens sensitivity to aberration: scaling rules," Opt. Eng. 61(10) 105102 (7 October 2022) https://doi.org/10.1117/1.OE.61.10.105102.

11. José M. Sasián, David J. Brady, Martin Kebschull, "Split achromatic doublet problem and lens element centering in a drop-in barrel," Opt. Eng. 61(10) 105112 (27 October 2022) https://doi.org/10.1117/1.OE.61.10.105112.

12. José M. Sasián, Weichuan Gao, "Characteristics and control of linear astigmatism aberration in a nonaxially symmetric optical system," Opt. Eng. 60(5) 051206 (5 January 2021) https://doi.org/10.1117/1.OE.60.5.051206

13. José M. Sasián, "Modeling light interference figures and isogyres of uniaxial and biaxial birefringent optical elements," Opt. Eng. 60(5) 055102 (20 May 2021) https://doi.org/10.1117/1.OE.60.5.055102

14. Sasián, J. Control of Linear Astigmatism Aberration in a Perturbed Axially Symmetric Optical System and Tolerancing. *Appl. Sci.* **2021**, *11*, 3928. https://doi.org/10.3390/app11093928

15. Jose Sasian, Reuven Paikin, "Angular Spectrum Evaluation Tool analysis of the Crown of Light diamond cut," Opt. Eng. 59(12) 124104 (14 December 2020) https://doi.org/10.1117/1.OE.59.12.124104

16. Jose Sasián, Weichuan Gao, "Compact, unit magnification, reflective imaging relay using freeform surfaces," Opt. Eng. 59(9) 095103 (7 September 2020) https://doi.org/10.1117/1.OE.59.9.095103

17. Miguel Olvera-Angeles, Enrique. González-Amador, Justo Arines, J. Sasian, J. Schwiegerling and Eva Acosta, "Jacobi–Fourier phase masks to increase performance of wavefront-coded optical systems for random or varying aberration alleviation," The Japan Society of Applied Physics Japanese Journal of Applied Physics, Volume 59, 2020.

18. Tim P. Johnson and Jose Sasian, "Image distortion, pupil coma, and relative illumination," Appl. Opt. 59, G19-G23 (2020)

19. Tim P. Johnson and Jose Sasian, "Zernike monomials in wide field of view optical designs," Appl. Opt. 59, G146-G153 (2020)

20. Tim P. Johnson, Jose Sasian, and Lacy G. Cook, "Optical design using image distortion for orthorectification," Appl. Opt. 59, G175-G184 (2020)

21. Jose Sasian, "Formulae for the geometrical propagation of a beam of light," Appl. Opt. 59, G24-G32 (2020).

22. Jose Sasián, "James C. Wyant College of Optical Sciences: introduction to the focus issue," Appl. Opt. 59, JCW1-JCW1 (2020)

23. Eva Acosta, Miguel Olvera-Angeles, Enrique González-Amador, J. Sasian, J. Schwiegerling, and Justo Arines, "Wavefront coding with Jacobi–Fourier phase masks for retinal imaging," Appl. Opt. 59, G234-G238 (2020)

24. Sasián, José, "Method of confocal mirror design," Optical Engineering; 10.1117/1.OE.58.1.015101; 2019.

25. Yufeng Yan, Xiaobo Tian, Rongguang Liang, and Jose Sasian, "Optical performance evaluation and chromatic aberration correction of a focus tunable lens used for 3D microscopy," Biomed. Opt. Express 10, 6029-6042, 2019.

26. W. Gao, R. N. Youngworth, J. Sasian, "Method to evaluate surface figure error budget for optical systems,' Optical Engineering, 57(10), 10.1117/1.OE.58.1.015101; 2019.

27. Miguel Olvera-Angeles, Alfonso Padilla-Vivanco, José Sasian, Jim Schwiegerling, Justo Arines and Eva Acosta ,"Effect of spherical aberration in trefoil phase plates on color wavefront coding," Japanese Journal of Applied Physics, Volume 57, Number 8S2, 2018.

28. Dmitry Reshidko, Jose Sasian, "Method for the design of nonaxially symmetric optical systems using free-form surfaces," Optical Engineering, 57(10), 101704 (2018).

29. Rengmao Wu, José Sasián, and Rongguang Liang, "Algorithm for designing free- form imaging optics with nonrational B-spline surfaces," Applied Optics, Vol. 56 (9), pp. 2517-2522, (2017).

30. Dmitry Reshidko, Jose Sasian, "Geometrical irradiance changes in a symmetric optical system," Optical Engineering, 56(1), 015104 (2017). doi:10.1117/1.OE.56.1.015104

31. Jose Sasian; Weichuan Gao and Yufeng Yan, "Method to design apochromat and superachromat objectives," Optical Engineering, 56(10), 105106 (2017). doi:10.1117/1.OE.56.10.105106

32. Yufeng Yan; Jose Sasian, "Photographic zoom fisheye lens design for DSLR cameras," Optical Engineering, 56(9), 095103 (2017). i:10.1117/1.OE.56.9.095103

33. 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.

34. 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.

35. 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.

36. Dmitry Reshidko, Jose Sasian, "Optical analysis of miniature lenses with curved imaging surfaces," Appl. Opt. Oct. 54(28):E216-23, 2015.

37. Eric Herman, Jose Sasian, "Aberration considerations in lens tolerancing," Appl. Opt. 53(3):341. January 2014.

38. Jose Sasian, Eva Acosta, "Generation of spherical aberration with axially translating phase plates via extrinsic aberration," Opt. Express 2014 Jan; 22(1):289-294.

39. Chia-Ling Li and Jose Sasian "Adaptive dispersion formula for index interpolation and chromatic aberration correction," Opt Express 2014 Jan; 22(1):1193-202.

40. 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.

41. 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)

42. 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).

43. 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).

44. Braulio 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).

45. 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.

46. 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.

47. 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 , July 4 2011.

48. 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.

49. 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.

50. 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

51. 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**.**

52. 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.

53. 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.

54. 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.

55. J. Sasian, "Theory of sixth-order wave aberrations," Applied Optics, Vol. 49, Issue 16, pp. D69-D95 (2010).

56. J. Sasian, "Erratum: Theory of sixth-order wave aberrations," Applied Optics, Vol. 49, n 33, pp. 5603-6503 (2010).

57. 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.

58. 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.

59. 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.

60. 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.

61. 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).

62. J. Sasian, J. Quick, J. Sheffield, J. Caudill, and P. Yantzer, "Evaluation of brilliance, fire, and scintillation in round brilliant gemstones, " Optical Engineering (2007).

63. Chao-Wen Liang, Jose Sasian, "Geometrical optics modeling of the grating-slit test," Optics Express (2007).

64. B. DeBoo, J. Sasian, R. Chipman, "Depolarization of several diffusely reflecting manmade objects," Applied Optics, Vol. 44 Issue 26 Page 5434-5445 (2005).

65. 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

66. Iwona Palusinski, Jose Sasian, "Sag and phase descriptions for null corrector certifiers," Optical Engineering, Vol. 43(03), p 697-701, 2004.

67. 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.

68. 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.

69. 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

70. 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.

71. Erin M. Sabatke and Jose M. Sasian, 'Phase Theory for Multiple Aperture Systems,' Opt. Eng. 41(3), 647-655, March 2002.

72. 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.

73. 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.

74. 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.

75. 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.

76. Jose M. Sasian, 'Aberrations from a prism and a grating,' Applied Optics 39(1), 34-

39, 2000.

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