

Eric A. Herman

Professional Experience

2022-Present	Staff Optical Design Engineer, Imaging Optics, Synopsys
2017-2022	Optical Design Engineer, ZYGO Corporation
2014-2017	Member Technical Staff, The Aerospace Corporation
2012-2012	Engineering Intern, Control Vision, Inc.
2009-2012	Junior Optical Design Engineer, Edmund Optics

Education

2014	M.S. Degree in Optical Sciences and Engineering, University of Arizona
2012	B.S. Degree in Optical Sciences and Engineering, University of Arizona
2009	A.A. Degree in Laser/Electro-Optics and Fiber Optic Technology, Camden County College

Eric Herman is an optical engineer with a focus on optical design, analysis, and tolerancing. His experience varies across many different applications, from biomedical to space systems. He has experience with taking a design from concept to successful end use and is an expert in international standards, with a focus on lens specification and environmental testing.

Published Book

E. Herman, D. M. Aikens, and R. N. Youngworth, *Modern Optics Drawings: The ISO 10110 Companion* (SPIE, 2021)

Publications

N. Takaki and E. Herman, "The continued importance of the Abbe sine condition," Proc. SPIE 12798, 1279815 (2024).

B. Crowther, E. Herman, "An Athermalization Strategy for Compact Aspheric Lenses," Proc. SPIE 12669, 126690F (2023).

D. Aikens, E. Herman, and R. Youngworth, "Moving Beyond the Drawing Notation of ISO 10110," Proc. SPIE 12798, 127981R (2023).

D. Aikens, E. Herman, and R. Youngworth, "Moving Beyond the Drawing Notation of ISO 10110," in Optical Design and Fabrication Congress: International Optical Design Conference, Optica Technical Digest (Optica, 2023), paper IW1C.1.

J. Rogers, M. Zollers, and E. Herman, "Characterizing finely structured ghost images using physical optics propagation methods," Proc. SPIE 12798, 127982E (2023).

N. Takaki and E. Herman, "The Continued Importance of the Abbe Sine Condition," in Optical Design and Fabrication Congress: International Optical Design Conference, Optica Technical Digest (Optica, 2023), paper ITh2C.6.

E. Herman and D. Aikens, "Using ISO Environmental Standards in an ISO 10110 Format Drawing," Proc. SPIE 12221, 122210A (2022).

R. Youngworth, E. Herman, and D. Aikens, "Advances and Insights into Fundamental Optics Standards," in The 13th International Conference on Optics-photonics Design and Fabrication, (2022), paper OThA1B-01.

R. Youngworth, T. Yamanashi, and E. Herman, "Assessing Zoom Lenses for Manufacturability and Tolerancing," Proc. SPIE 11106, 1110606 (2019).

E. Herman, "Determining Optimal Orientation of Straight-Vane Baffles for Stray Light Mitigation," Proc. SPIE 11103, 111030K (2019)

E. Herman, D. Aikens, and R. Youngworth, "Understanding the nuances of MIL to ANSI to ISO drawing formats," in Optical Design and Fabrication Congress, OSA Technical Digest (Optical Society of America, 2019), paper OM2A.5

E. Herman, R. Youngworth, and D. Aikens, "Modern Optics Drawings: The journey from MIL to ANSI to ISO drawing formats," Proc. SPIE 10742, 107420P (2018)

E. Herman, R. Youngworth, and D. Aikens, "Modern Optics Drawings: Translating from American MIL drawings to ISO 10110," Proc. SPIE 10742, 107421D (2018)

S. Wiktorowicz, R. Russell, D. Pack, E. Herman, G. Rossano, D. Ardila, C. Coffman, B. Hardy, and B. Hattersley, "Calibration of a Multi-Spectral CubeSat with LandSat Filters," Proc. Conf. Charact. Radiom. Calibration Remote Sens., (2017)

D. W. Pack, D. R. Ardila, E. Herman, D. W. Rowen, R. P. Welle, S. J. Wiktorowicz, and B. W. Hattersley, "Two Aerospace Corporation CubeSat Remote Sensing Imagers: CUMULOS and R3," Proc. AIAA/USU Conf. Small Satell., SSC17-III-05, (2017)

R. Youngworth and E. Herman, "To zoom or not to zoom: do we have enough pixels?," Proc. SPIE 9580, 958009 (2015)

S. Lampen, S. Yi, J. Lang, C. Lampen, A. Vore, D. Warren, E. Herman, and J. J. Pereira, "IR Sounder Small Satellite for Polar Orbit Weather Measurements," Proc. AIAA/USU Conf. Small Satell. Science/Mission Payloads, SSC-XII-5, (2015)

D. M. Tratt, I. A. Palusinski, E. Herman, J. A. Lang, A.-B. Mahler, L. A. Peterson, F. A. Roybal, A. G. Vore, F. T. Freund, and A. N. French, "Hyperspectral Outgoing Longwave Radiation Observatory Payload Concept Study Purpose and Motivation," NASA Earth Sci. Technol. Forum (2014)

R. Youngworth and E. Herman, "Modeling Decenter, Wedge, and Tilt Errors in Optical Tolerance Analysis and Simulation," Proc. SPIE 9195, 919502 (2014)

E. Herman, R. Youngworth, and J. Sasian, "Efficient Assessment of Lens Manufacturability in Optical Design," Proc. SPIE 9293, 929318 (2014)

E. Herman and J. Sasian, "Aberration Considerations in Lens Tolerancing," Applied Optics 53, 341 - 346 (2014)

E. Herman, J. Sasian, and R. Youngworth, "Optomechanical Considerations for Realistic Tolerancing," Proc. SPIE 8844, 884401 (2013)

E. Herman, A. Czajkowski, D. Stroschine, & S. Sparrold, "System Design Process for Refractive Simultaneous SWIR and LWIR Imaging," Applied Optics 52, 2761-2772 (2013)

S. Sparrold, E. Herman, A. Czajkowski, & K. O'Shea, "Refractive Lens Design for Simultaneous SWIR and LWIR Imaging," Proc. SPIE 8012, 801264 (2011)

Professional Societies

Senior Member SPIE
Member Optica, formerly Optical Society of America

Professional Activities

Director-At-Large (2019 – 2023), Optics and Electro-Optics Standards Council
Chairperson (2023 – Present), Optics and Electro-Optics Standards Council
US Head of Delegation (2021 – Present), ISO TC 172/SC 3 “Optical materials and components”