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# ***Optical System Alignment, Tolerancing, and Verification VI***

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*Editors*

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# Contents

vii	<i>Conference Committee</i>
ix	<i>Introduction</i>

---

## SESSION 1 DESENSITIZATION AND TOLERANCING

---

- 8491 03 **Ultra-precision fabrication of high density micro-optical backbone interconnections for data center and mobile application** [8491-2]  
U. Lohmann, J. Jahns, FernUniv. Hagen (Germany); T. Wagner, C. Werner, Euromicron Werkzeuge GmbH (Germany)
- 8491 04 **Tolerancing considerations for visual systems (Invited Paper)** [8491-3]  
J. Schwiegerling, College of Optical Sciences, The Univ. of Arizona (United States)
- 8491 05 **Practical method of cost-based tolerancing (Invited Paper)** [8491-4]  
A. Yabe, Consultant (Germany)

---

## SESSION 2 ALIGNMENT AND BAFFLE TOLERANCES IN SPACE SYSTEMS

---

- 8491 08 **Precise alignment of x-ray mirror components utilizing pneumatic actuators** [8491-6]  
S. E. Kendrick, P. Atcheson, R. Warden, J. Cole, B. Kelsic, D. Fear, Ball Aerospace & Technologies Corp. (United States)
- 8491 09 **Alignment solutions for the optical development system lab for the ATLAS instrument** [8491-7]  
T. Evans, J. Lehan, SGT, Inc. (United States); H. Chavez, NASA Johnson Space Ctr. (United States)
- 8491 0A **Stray light analysis of the Formosat-5 telescope** [8491-8]  
T.-M. Huang, C.-F. Ho, P.-H. Huang, Y.-C. Lin, S.-T. Chang, Instrument Technology Research Ctr. (Taiwan)

---

## SESSION 3 VERIFICATION AND OPTOMECHANICS

---

- 8491 0B **Optical design and performance testing of an athermal SWIR gas correlation imager** [8491-9]  
A. Tanbakuchi, M. Smith, J. Mercier, S. Vigil, T. Embree, A. Ison, Sandia National Labs. (United States)
- 8491 0C **Rapid spatial characterization measurements of a multi-element focal plane using derived geometrical information** [8491-10]  
J. W. Baer, T. F. Drouillard II, Ball Aerospace & Technologies Corp. (United States)

- 8491 0D **A support structure for a compliant deformable mirror** [8491-11]  
F. Penado, Northern Arizona Univ. (United States); J. H. Clark III, U.S. Naval Research Lab. (United States); J. Dugdale, Northern Arizona Univ. (United States)
- 8491 0E **Opposed port alignment system (OPAS): a commercial astronomical telescope modified for viewing the interior of the NIF target chamber** [8491-12]  
A. M. Manuel, T. J. McCarville, L. G. Seppala, J. L. Klingmann, D. H. Kalantar, Lawrence Livermore National Lab. (United States)

---

**SESSION 4 OPTICAL SYSTEM ALIGNMENT**

---

- 8491 0F **Use of a flat panel display for measurement of sine condition violations** [8491-13]  
S. Lampen, M. Dubin, J. H. Burge, College of Optical Sciences, The Univ. of Arizona (United States)
- 8491 0G **Binocular collimation vs conditional alignment (Invited Paper)** [8491-14]  
W. J. Cook, Consultant (United States)
- 8491 0H **Practical alignment using an autostigmatic microscope** [8491-15]  
R. E. Parks, Optical Perspectives Group, LLC (United States)
- 8491 0J **Computer-aided alignment method using RMS WFE value as an optimization criterion** [8491-17]  
Y. Kim, H.-S. Yang, Univ. of Science & Technology (Korea, Republic of) and Korea Research Institute of Standards and Science (Korea, Republic of); Y.-W. Lee, Korea Research Institute of Standards and Science (Korea, Republic of)

---

**POSTER SESSION**

---

- 8491 0K **Optical design, performance, and tolerancing of an Offner imaging spectrograph** [8491-18]  
H. Ku, S. H. Kim, H. J. Kong, KAIST (Korea, Republic of); J. H. Lee, Kongju National Univ. (Korea, Republic of)
- 8491 0M **The alignment and isostatic mount bonding technique of the aerospace Cassegrain telescope primary mirror** [8491-20]  
W.-C. Lin, S.-T. Chang, Y.-C. Lin, M.-Y. Hsu, Y.-T. Chang, Instrument Technology Research Ctr. (Taiwan); S.-H. Chang, National Space Organization (Taiwan); T.-M. Huang, Instrument Technology Research Ctr. (Taiwan)
- 8491 0Q **Opt-mechanical and thermal integrated analysis of a new cryogenic refractometer** [8491-24]  
L. Ni, Institute of Optics and Electronics (China) and Univ. of the Chinese Academy of Sciences (China); Q. Ren, S. Liao, T. Xing, Institute of Optics and Electronics (China)

8491 OR **Verification of Fresnel lens in high concentration photovoltaic system** [8491-25]  
A.-C. Wei, Power Lens Technology, Inc. (Taiwan); J.-R. Sze, Instrument Technology Research  
Ctr. (Taiwan); J.-L. Chern, Power Lens Technology, Inc. (Taiwan)

*Author Index*



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## Introduction

This year marked the sixth time this annual conference has taken place in beautiful San Diego, California, USA, at the SPIE's Optics & Photonics symposium. The 2012 Optical System Alignment, Tolerancing and Verification VI conference was very successful. The conference consisted of a day of high quality presentations, the poster session, and subsequent proceedings articles. We sincerely thank our invited speakers, contributed speakers, poster paper presenters, and the superb community for making the sessions and conference such a success. It is very clear that the topics covered by this conference continue to be of great interest to the optics and photonics community.

This year the conference had four strong sessions on desensitizing and tolerancing, alignment and baffle tolerances in space systems, verification and optomechanics, and optical system alignment. The first session had a great contributed paper on micro-optical interconnection and then two invited talks on tolerancing for visual systems and a practical method for cost-based tolerancing. The second session had three great papers on alignment of x-ray mirror components using pneumatic actuators, alignment laboratory solutions for the ATLAS instrument, and stray light and baffle assembly sensitivity analysis of the Formosat-5 telescope. After lunch, the third session had talks on the design and testing of an athermal SWIR gas correlation imager, rapid spatial characterization measurements of a multi-element focal plane, a support structure for a compliant deformable mirror, and a commercial astronomical telescope modified for viewing the interior of the NIF chamber. The last section had presentations on use of a flat panel display for measuring sine condition violations, practical alignment using an auto-stigmatic microscope, optomechanical design and alignment strategies demonstrated on a zoom lens (presentation only), a computer-aided alignment method using RMS wavefront error as optimization criterion, and an invited talk on binocular collimation versus conditional alignment. The poster session featured papers on design and tolerancing of an Offner imaging spectrograph, alignment and iso-static alignment of mount bonding for a Cassegrain aerospace primary mirror, optomechanical and thermal integrated analysis of a new cryogenic refractometer, verification of a Fresnel lens for a high concentration photovoltaic system, and an off-axis type aspheric test using an off-axis type asphere.

This year's conference has been truly outstanding. We must of course thank our excellent program committee for continuing to promote this conference. Furthermore, we are once again quite grateful to the greater community for sharing work and participating, as interaction in this area is very beneficial in advancing our field. Finally we thank the fine volunteers and SPIE staff for providing us the opportunity to cover the subjects of optical system alignment, tolerancing, and verification in a dedicated conference and proceedings.

This conference will continue in 2013. We encourage everyone interested in optical system alignment, tolerancing, and verification to look for the call for papers and to submit your work in early 2013. We certainly value all of the quality submissions as well as the opportunity to help facilitate and take part in the community's interaction. Please feel free to contact us or anyone on our program committee if you have any questions. We look forward to seeing you next year.

**José Sasián**  
**Richard N. Youngworth**