

PROCEEDINGS OF SPIE

Eleventh European Seminar on Precision Optics Manufacturing

Gerald Fütterer
Christine Wünsche
Oliver W. Föhnle
Helge Thieß
Alexander Haberl
Editors

9–10 April 2024
Teisnach, Germany

Organized by
Deggendorf Institute of Technology (Germany)
Technology Campus Teisnach (Germany)

Technical Cosponsor and Publisher
SPIE

Volume 13221

Proceedings of SPIE 0277-786X, V. 13221

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

Eleventh European Seminar on Precision Optics Manufacturing, edited by Gerald Fütterer,
Christine Wünsche, Oliver W. Föhnle, Helge Thieß, Alexander Haberl, Proc. of SPIE
Vol. 13221, 1322101 · © 2024 SPIE · 0277-786X · doi: 10.1117/12.3045991

Proc. of SPIE Vol. 13221 1322101-1

The papers in this volume were part of the technical conference cited on the cover and title page. Papers were selected and subject to review by the editors and conference program committee. Some conference presentations may not be available for publication. Additional papers and presentation recordings may be available online in the SPIE Digital Library at SPIDigitalLibrary.org.

The papers reflect the work and thoughts of the authors and are published herein as submitted. The publisher is not responsible for the validity of the information or for any outcomes resulting from reliance thereon.

Please use the following format to cite material from these proceedings:
Author(s), "Title of Paper," in *Eleventh European Seminar on Precision Optics Manufacturing*, edited by Gerald Fütterer, Christine Wünsche, Oliver W. Föhnle, Helge Thieß, Alexander Haberl, Proc. of SPIE 13221, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

ISSN: 0277-786X
ISSN: 1996-756X (electronic)

ISBN: 9781510681675
ISBN: 9781510681682 (electronic)

Published by
SPIE
P.O. Box 10, Bellingham, Washington 98227-0010 USA
Telephone +1 360 676 3290 (Pacific Time)
SPIE.org
Copyright © 2024 Society of Photo-Optical Instrumentation Engineers (SPIE).

Copying of material in this book for internal or personal use, or for the internal or personal use of specific clients, beyond the fair use provisions granted by the U.S. Copyright Law is authorized by SPIE subject to payment of fees. To obtain permission to use and share articles in this volume, visit Copyright Clearance Center at copyright.com. Other copying for republication, resale, advertising or promotion, or any form of systematic or multiple reproduction of any material in this book is prohibited except with permission in writing from the publisher.

Printed in the United States of America by Curran Associates, Inc., under license from SPIE.

Publication of record for individual papers is online in the SPIE Digital Library.

SPIE. DIGITAL LIBRARY
SPIDigitalLibrary.org

Paper Numbering: A unique citation identifier (CID) number is assigned to each article in the Proceedings of SPIE at the time of publication. Utilization of CIDs allows articles to be fully citable as soon as they are published online, and connects the same identifier to all online and print versions of the publication. SPIE uses a seven-digit CID article numbering system structured as follows:

- The first five digits correspond to the SPIE volume number.
- The last two digits indicate publication order within the volume using a Base 36 numbering system employing both numerals and letters. These two-number sets start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B ... 0Z, followed by 10-1Z, 20-2Z, etc. The CID Number appears on each page of the manuscript.

Contents

v *Conference Committee*

ELEVENTH EUROPEAN SEMINAR ON PRECISION OPTICS MANUFACTURING

- 13221 02 **Round-robin test of subsurface damage characterization in ZERODUR using non-destructive optical coherence tomography [13221-5]**
- 13221 03 **Reticles in autocollimators: change in image quality due to changed coherence properties [13221-15]**
- 13221 04 **Laser-cleaning of atmospheric pressure plasma jet etched Zerodur [13221-10]**
- 13221 05 **Characterization of manufacturing-induced microcracks in optical components [13221-4]**
- 13221 06 **Atmospheric pressure dielectric barrier discharge plasma-enhanced optical contact bonding of different types of optical glasses [13221-9]**
- 13221 07 **Flexibility analysis on precision glass molding by finite element method simulation [13221-11]**
- 13221 08 **Optimization of the surface quality of brittle-hard materials in CNC grinding processes based on vibration and topography analyses and the use of machine learning [13221-7]**
- 13221 09 **Cutting behavior and surface defects in ultra-precision grinding of glassy carbon [13221-12]**
- 13221 0A **Novel laser-based manufacturing chain for wafer-level mini-optics [13221-14]**
- 13221 0B **Impact of preheating conditions on form deviation during laser polishing of N-BK7 glass [13221-1]**
- 13221 0C **Evaluation of a 6-DOF inkjet printer for the production of microstructures on curved surfaces using UV curable resin [13221-8]**
- 13221 0D **Setting up an industrial robot for automated overarm polishing [13221-13]**
- 13221 0E **An experimental approach to temperature measurement in the contact zone when grinding brittle-hard materials [13221-2]**
- 13221 0F **Development of individually designed, additively manufactured fine grinding tools with a hybrid bond for processing inorganic, non-metallic materials [13221-3]**
- 13221 0G **Testing optical surface form by a precise point diffraction interferometer D7 [13221-6]**

Conference Committee

Conference Chairs

Gerald Fütterer, Technische Hochschule Deggendorf (Germany)
Christine Wünsche, Technische Hochschule Deggendorf (Germany)
Oliver W. Föhnle, OST – Ostschweizer Fachhochschule (Switzerland)
Helge Thieß, Technische Hochschule Deggendorf (Germany)
Alexander Haberl, Technische Hochschule Deggendorf (Germany)

Session Chairs

- 1 Session 1
Helge Thieß, Technische Hochschule Deggendorf (Germany)
- 2 Session 2
Oliver W. Föhnle, OST – Ostschweizer Fachhochschule (Switzerland)
- 3 Session 3
Gerald Fütterer, Technische Hochschule Deggendorf (Germany)
- 4 Session 4
Christine Wünsche, Technische Hochschule Deggendorf (Germany)
- 5 Session 5
Volha Kukso, Technische Hochschule Deggendorf (Germany)

