

PROCEEDINGS OF SPIE

Ninth European Seminar on Precision Optics Manufacturing

**Alexander Haberl
Gerald Fütterer
Oliver W. Föhnle
Christine Wünsche**
Editors

**4–5 May 2022
Teisnach, Germany**

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

Technical Cosponsor and Publisher
SPIE

Volume 12298

Proceedings of SPIE 0277-786X, V. 12298

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

9th European Seminar on Precision Optics Manufacturing (POM22), edited by Alexander Haberl,
Gerald Fütterer, Oliver W. Föhnle, Christine Wünsche, Proc. of SPIE Vol. 12298,
1229801 · © 2022 SPIE · 0277-786X · doi: 10.1117/12.2645886

Proc. of SPIE Vol. 12298 1229801-1

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 *Ninth European Seminar on Precision Optics Manufacturing*, edited by Alexander Haberl, Gerald Fütterer, Oliver W. Föhnle, Christine Wünsche, Proc. of SPIE 12298, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

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

ISBN: 9781510656567
ISBN: 9781510656574 (electronic)

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA

Telephone +1 360 676 3290 (Pacific Time)

SPIE.org

Copyright © 2022 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

9TH EUROPEAN SEMINAR ON PRECISION OPTICS MANUFACTURING (POM22)

- 12298 02 **Direct manufacturing of micro lens arrays via laser-ablation and -polishing** [12298-1]
- 12298 04 **Minimizing polishing times in asphere production by ultra-precision grinding** [12298-4]
- 12298 06 **Atmospheric plasma jet used as polishing tool for optical glasses** [12298-7]
- 12298 08 **Fully automated centering and bonding of lenses for high-quality objectives** [12298-5]
- 12298 09 **Centering measurement on aspheres: also double-sided** [12298-21]
- 12298 0A **Environmentally stable iridium mirror coatings for the infrared spectral range** [12298-11]
- 12298 0B **Differences and effects of two machine concepts on the manufacturing process of aspherical lenses** [12298-12]
- 12298 0C **3D printed flexible workpiece mount for conventional polishing** [12298-9]
- 12298 0D **Mesoscale surface patterning by ring-shaped lithography for single and array optical elements** [12298-16]
- 12298 0E **Comparison of robot arm orientations in measuring precision optics** [12298-10]
- 12298 0F **Investigation on process stability of laser beam figuring for single nanometer ablation on fused silica** [12298-20]
- 12298 0G **Investigations on the influence of process vibrations in CNC grinding processes on the surface quality of fused silica components** [12298-13]
- 12298 0H **Precision measurement of large optics up to 850 mm in diameter by use of a scanning point multi-wavelength interferometer** [12298-3]
- 12298 0I **Impact of different types of water as lubricants on roughness and contamination of bound abrasive ground heavy flint glass surfaces** [12298-8]

