

PROCEEDINGS OF SPIE

Components and Packaging for Laser Systems IX

Alexei L. Glebov
Paul O. Leisher
Editors

30–31 January 2023
San Francisco, California, United States

Sponsored and Published by
SPIE

Volume 12402

Proceedings of SPIE 0277-786X, V. 12402

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

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 *Components and Packaging for Laser Systems IX*, edited by Alexei L. Glebov, Paul O. Leisher, Proc. of SPIE 12402, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510659094

ISBN: 9781510659100 (electronic)

Published by

SPIE

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

Telephone +1 360 676 3290 (Pacific Time)

SPIE.org

Copyright © 2023 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*

SESSION 1 FIBER COMPONENTS FOR HIGH POWER/ENERGY LASERS

- 12402 02 **High non-linearities effects on pulse quality in a CPA system and mitigation strategies** [12402-1]
- 12402 03 **Compact packaged Tm-doped and Ho-doped broadband PM ASE sources in the 2000 nm band** [12402-3]

SESSION 2 LASER DIODE PACKAGING

- 12402 04 **Low SWaP miniaturized fiber coupled external cavity diode laser (ECDL) with high optical isolation as plug and play solution** [12402-6]
- 12402 05 **Single mode 660 nm DBR tapered laser with 1 W optical output power** [12402-7]

SESSION 3 OPTICAL COMPONENTS FOR LASER SYSTEMS

- 12402 06 **Blue-laser solarization of optical glass** [12402-18]

SESSION 4 HIGH POWER/ENERGY LASER COMPONENTS

- 12402 07 **6 kW power handling in a 7+1 to 1 pump-signal combiner** [12402-19]
- 12402 08 **Surface and bulk damage resistance of calcium fluoride optics assessed by x-ray induced color centers** [12402-21]
- 12402 09 **Flat optics for compact integration and high performances** [12402-23]

POSTER SESSION

- 12402 0A **Modeling of laser beam shaping by volume holographic phase masks** [12402-25]

DIGITAL POSTER SESSION

- 12402 0B **High-brightness high-power lightweight diode laser** [12402-9]
- 12402 0C **650W dual-wavelength locked high brightness diode laser pump source** [12402-13]
- 12402 0D **Investigation on the performance of high power long pulse laser diode arrays for hair removal and illumination** [12402-14]