

PROCEEDINGS OF SPIE

Components and Packaging for Lasers and PICs XII

**Alexei L. Glebov
Ruth Houbertz
Stefan W. Heinemann**
Editors

**19–20 January 2026
San Francisco, California, United States**

Sponsored and Published by
SPIE

Volume 13875

Proceedings of SPIE 0277-786X, V. 13875

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 Lasers and PICs XII*, edited by Alexei L. Glebov, Ruth Houbertz, Stefan W. Heinemann, Proc. of SPIE 13875, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510696648

ISBN: 9781510696655 (electronic)

Published by

SPIE

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

Telephone +1 360 676 3290 (Pacific Time)

SPIE.org

Copyright © 2026 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*

PIC COMPONENTS AND PACKAGING

- 13875 02 **Thermal-aware design methodology for copackaged electronic-photonic integrated circuits** [13875-3]
- 13875 03 **Photonic wire bonds and facet-attached microlenses: enabling scalable integration of lasers and PICs** [13875-4]

OPTICS ASSEMBLY AND RELIABILITY

- 13875 04 **Stress-minimized laser-soldering for periodically poled nonlinear materials** [13875-5]
- 13875 05 **Optical design and manufacturing principles of DUV and UV f-theta lenses for femtosecond laser material processing** [13875-6]
- 13875 06 **Innovative optical design for variable optical delay lines enabling low-losses variations** [13875-7]
- 13875 07 **Ultradcompact optical isolators for micro-integrated photonic modules** [13875-9]

LASER DIODE PACKAGING TECHNOLOGIES

- 13875 08 **Tapered semiconductor laser amplifiers at 780nm and 828nm for high-power pulse mode operation** [13875-13]
- 13875 09 **Dual-wavelength active alignment of optical elements** [13875-11]

HIGH POWER/ENERGY LASER COMPONENTS

- 13875 0A **Optical glasses for passive laser components: a review** [13875-15]
- 13875 0B **Thermal packaging of aerospace laser assemblies using copper-water heat pipes: experimental evaluation and integration approach** [13875-17]

HIGH POWER/ENERGY FIBER LASER COMPONENTS

- 13875 0C **Narrow-linewidth, single-frequency, high-efficiency, frequency-converted 785nm fiber laser for Raman spectroscopy** [13875-24]
- 13875 0D **Novel (9+1)×1 taper-fused side pump and signal combiner for next-generation multi-kW fiber lasers** [13875-18]
- 13875 0E **High-power testing of CO₂-laser spliced fiber arrays** [13875-21]

POSTER SESSION

- 13875 0F **Miniaturized 619nm laser modules with wavelength stabilization via VBGs and FBGs** [13875-22]
- 13875 0G **Erbium-doped fiber Bragg gratings in a single mode optical fiber as the tuning element for a laser** [13875-23]