

PROCEEDINGS OF SPIE

Relativistic Plasma Waves and Particle Beams as Coherent and Incoherent Radiation Sources IV

**Dino A. Jaroszynski
MinSup Hur**
Editors

**19–23 April 2021
Online Only, Czech Republic**

Sponsored by
SPIE

Cooperating Organisations
ELI Beamlines (Czech Republic)
Laserlab Europe
European Optical Society
HiLASE Centre (Czech Republic)

Published by
SPIE

Volume 11778

Proceedings of SPIE 0277-786X, V. 11778

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

Relativistic Plasma Waves and Particle Beams as Coherent and Incoherent Radiation Sources IV,
edited by Dino A. Jaroszynski, MinSup Hur, Proc. of SPIE Vol. 11778, 1177801
© 2021 SPIE · CCC code: 0277-786X/21/\$21 · doi: 10.1117/12.2598960

Proc. of SPIE Vol. 11778 1177801-1

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 *Relativistic Plasma Waves and Particle Beams as Coherent and Incoherent Radiation Sources IV*, edited by Dino A. Jaroszynski, MinSup Hur, Proc. of SPIE 11778, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

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

ISBN: 9781510643901
ISBN: 9781510643918 (electronic)

Published by

SPIE

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

Telephone +1 360 676 3290 (Pacific Time)

SPIE.org

Copyright © 2021 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

BETATRON, PLASMA UNDULATOR, AND CONVENTIONAL UNDULATOR SOURCES I

- 11778 07 Control of betatron emission via LWFA using aluminum target (Invited Paper) [11778-4]

BETATRON, PLASMA UNDULATOR, AND CONVENTIONAL UNDULATOR SOURCES II

- 11778 09 Controlling the group velocity of an intense laser pulse using a pre-pulse (Invited Paper) [11778-6]

TERAHERTZ SOURCES

- 11778 0C Terahertz field excitation by a higher-order Gaussian laser pulse propagating in a magnetized plasma (Invited Paper) [11778-9]
- 11778 0E Subrelativistic infrared and terahertz pulses from petawatt class laser interaction with complex nanodimensional targets (Invited Paper) [11778-11]

HIGH-FIELD PHYSICS

- 11778 0H Probing plasma effects in electron-beam-driven QED cascades (Invited Paper) [11778-13]
- 11778 0J Electrostatic and scalar fields (Invited Paper) [11778-15]

RAMAN, BRILLOUIN, AND PARAMETRIC PLASMA PROCESSES

- 11778 0M Investigations into the volume plasma density grating waveplate (Invited Paper) [11778-18]

APPLICATIONS OF PLASMA ACCELERATORS

- 11778 0N Focused beam dosimetry of short VHEE bunches (Invited Paper) [11778-19]

