## Contents

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
<th>Conference Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>v</td>
<td>Authors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vi</td>
<td>Conference Committee</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### OPTICAL REFRIGERATION OF RARE-EARTH DOPED MATERIALS

10121 03 Laser refrigeration of rare-earth doped sodium-yttrium-fluoride nanowires (Invited Paper) [10121-3]

### ELECTROLUMINESCENCE AND OTHER NOVEL COOLING CONCEPTS

10121 08 A design of a PhC-enhanced LED for electroluminescence cooling [10121-8]
10121 09 Intracavity double diode structures with GaInP barrier layers for thermophotonic cooling [10121-9]
10121 0A Surface phonon polaritons as a source of laser cooling perturbation (Invited Paper) [10121-10]

### LASER COOLING IN SEMICONDUCTORS

10121 0F Investigation into the origin of parasitic absorption in GaInP | GaAs double heterostructures [10121-15]

### THERMOELECTRIC COOLERS I

10121 0M Enhancing thermoelectric power factor at low temperature (Invited Paper) [10121-22]
10121 0N New directions in thermoelectric and thermal-electric cooling (Invited Paper) [10121-23]

### POSTER SESSION

10121 0Q Lock-in thermography approach for imaging the efficiency of light emitters and optical coolers [10121-26]
Authors

Numbers in the index correspond to the last two digits of the seven-digit citation identifier (CID) article numbering system used in Proceedings of SPIE. The first five digits reflect the volume number. Base 36 numbering is employed for the last two digits and indicates the order of articles within the volume. Numbers start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B...0Z, followed by 10-1Z, 20-2Z, etc.

Aho, Arto, 09
Albrecht, Alexander R., 0F
Creamer, Patrick, 0N
Giannini, Nathan, 0F
Guina, Mircea, 09
Gunawan, Andrey, 0N
Haggren, Tuomas, 09
Hakkarainen, Teemu, 09
Kashyap, Raman, 0A
Kivisaari, Pyry, 09
Li, Zheng, 08
Lyytikäinen, Jari, 09
Nemova, Galina, 0A
Oksanen, Jani, 09, 0Q
Pauzauskie, Peter J., 03
Radevici, Ivan, 09, 0Q
Rajan, Aravindh, 0N
Ram, Rajeev, 08
Roder, Paden B., 03
Rodin, David M., 0N
Sheik-Bahae, Mansoor, 0F
Smith, Bennett E., 03
Tiira, Jonna, 09, 0Q
Tukiainen, Antti, 09
Xue, Jin, 08
Yang, Zhou, 0F
Yee, Shannon K., 0N
Zebarjadi, Mona, 0M
Zhou, Xuezhe, 03
Conference Committee

Symposium Chairs
  Jean-Emmanuel Broquin, IMEP-LAHC (France)
  Shibin Jiang, AdValue Photonics, Inc. (United States)

Symposium Co-chairs
  Connie J. Chang-Hasnain, University of California, Berkeley (United States)
  Graham T. Reed, Optoelectronics Research Centre, University of Southampton (United Kingdom)

Program Track Chair
  David L. Andrews, University of East Anglia (United Kingdom)

Conference Chairs
  Richard I. Epstein, The University of New Mexico (United States)
  Denis V. Seletskiy, Universität Konstanz (Germany)
  Mansoor Sheik-Bahae, The University of New Mexico (United States)

Conference Program Committee
  Gaurav Bahl, University of Illinois at Urbana-Champaign (United States)
  Daniel A. Bender, Sandia National Laboratories (United States)
  Steven Bowman, U.S. Naval Research Laboratory (United States)
  Joaquín Fernández, Universidad del País Vasco (Spain)
  Thomas Fraser, Air Force Research Laboratory (United States)
  Matthew Grayson, Northwestern University (United States)
  Raman Kashyap, École Polytechnique de Montréal (Canada)
  Paul D. LeVan, Air Force Research Laboratory (United States)
  Ali Sayir, Air Force Office of Scientific Research (United States)
  Mauro Tonelli, Università di Pisa (Italy)
  Qihua Xiong, Nanyang Technological University (Singapore)

Session Chairs
  1 Optical Refrigeration of Rare-Earth Doped Materials
  Denis V. Seletskiy, Universität Konstanz (Germany)
2 Electroluminescence and Other Novel Cooling Concepts  
Mansoor Sheik-Bahae, The University of New Mexico (United States)

3 Laser Cooling in Semiconductors  
Jacob B. Khurgin, Johns Hopkins University (United States)

4 Radiation Balanced Lasers  
Markus Hehlen, Los Alamos National Laboratory (United States)

5 Thermoelectric Coolers I  
Galina Nemova, Ecole Polytechnique de Montréal (Canada)

6 Thermoelectric Coolers II  
Galina Nemova, Ecole Polytechnique de Montréal (Canada)