

## High-power non linear frequency converted laser diodes - DTU Orbit (09/11/2017)

### High-power non linear frequency converted laser diodes

We present different methods of generating light in the blue-green spectral range by nonlinear frequency conversion of tapered diode lasers achieving state-of-the-art power levels. In the blue spectral range, we show results using single-pass second harmonic generation (SHG) as well as cavity enhanced sum frequency generation (SFG) with watt-level output powers. SHG and SFG are also demonstrated in the green spectral range as a viable method to generate up to 4 W output power with high efficiency using different configurations.

### General information

State: Published

Organisations: Department of Photonics Engineering, Diode Lasers and LED Systems, Norlase ApS

Authors: Jensen, O. B. (Intern), Andersen, P. E. (Intern), Hansen, A. K. (Intern), Marti, D. (Intern), Skovgaard, P. M. W. (Intern), Petersen, P. M. (Intern)

Number of pages: 9

Publication date: 2015

### Host publication information

Title of host publication: Proceedings of SPIE

Volume: 9370

Publisher: SPIE - International Society for Optical Engineering

Article number: 937025

Series: Proceedings of SPIE, the International Society for Optical Engineering

ISSN: 0277-786X

Main Research Area: Technical/natural sciences

Conference: Quantum Sensing and Nanophotonic Devices XII, San Francisco, California, United States, 08/02/2015 - 08/02/2015

Tapered diode laser, Second harmonic generation, Sum frequency generation, Visible lasers

Electronic versions:

937025.pdf

DOIs:

10.1117/12.2081037

### Bibliographical note

Copyright 2015 Society of Photo Optical Instrumentation Engineers. One print or electronic copy may be made for personal use only. Systematic electronic or print reproduction and distribution, duplication of any material in this paper for a fee or for commercial purposes, or modification of the content of the paper are prohibited.

### Relations

Projects:

High-power non linear frequency converted laser diodes

Source: FindIt

Source-ID: 274272994

Publication: Research - peer-review › Article in proceedings – Annual report year: 2015