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Solid State Lasers and Amplifiers III

Jonathan A. Terry
Thomas Graf
Helena Jelínková
Editors

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Introduction

This was the third occurrence of the Solid State Lasers and Amplifiers conference, held as part of the Photonics Europe symposium, over the period 8-10 April 2008 in Strasbourg, France. The participation level increased compared to 2 years ago, reflected by the conference extending over 3 days, with 37 oral papers and an interactive poster session of some 22 papers.

Particular hot topics for this year were fibre lasers, with two invited papers, from Shibin Jiang of NP Photonics and Stuart Jackson of the University of Sydney, and a new session entitled Beam Control and Transmission, regarding spatial and polarisation analysis and control of beams, and beam delivery systems to actually get the generated beams to their respective applications. Pulsed solid state lasers was again a session topic, regarding both Q-switching and mode-locking, the latter being implemented with Quantum Dot structures in an invited paper from Edik Rafailov of the University of Dundee, as was Infrared Lasers, including Raman conversion in Tungstates and Dy doped in Lead Thiogallate as a direct source for $>4\ \mu\text{m}$, as described in an invited paper by Maxim Doroshenko of the General Physics Institute (Moscow). Despite the long history, there is always something new concerning 1 Micron lasers, often with new host materials, but also in scaling to high powers with excellent beam quality and spectral purity, as described by Dietmar Kracht of the Laser Zentrum Hanover, where the application was gravitational wave detection. The final oral session was on Non-linear Optical sources, kicked-off by a presentation on the advantages of periodic and quasi-periodic nonlinear photonic crystals from Ady Arie of Tel-Aviv University.

A new addition this year was a keynote presentation, from John Collier of the UK Science and Technology Facilities Council, giving a flavour of what might be expected of the upcoming large-scale project HiPER, described as the European path to laser fusion and related plasma science.

This proceedings volume provides more detail on all the presented papers for which a manuscript was submitted.

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