

Editorial

Photorefractive materials are of interest in many fields of science and technology: Scattering, amplification and oscillation of light beams, phase conjugation, volume holographic storage and image processing are just a few examples. Currently all around the world new photorefractive materials, effects and applications are discovered, investigated and optimized. This is also stimulated by the success of fiber-optical networks and compact discs, which indicate the advantages and performance of optical technologies. Light sources, optical components and detectors of outstanding performance are available nowadays and make the realization of photorefractive devices feasible.

The announcement of this feature issue, "Photorefractive Materials: Properties and Applications", attracted great attention. The 48 papers published here cover many aspects of photorefractives: articles about established photorefractive materials, novel advantageous media, photorefractive effects and applications are grouped in four separate sections. So this issue contains much information about impressive recent advances: two-beam-coupling gains up to 100 cm^{-1} obtained with a prism of iron-doped lithium niobate, photoaddressable polymers with refractive-index changes up to 0.2, the first experiments showing the presence of an electro-optic effect for neutrons, and injection-locking of laser-diode bars with a power of 0.84 W, to name just a few examples.

This month is the 60th birthday of one of the pioneers in the field of photorefractives: *Prof. Dr. E. Krätzig*. His clear and systematic work has set the standard in the field. Several articles in this feature issue are specially dedicated to him.

We thank all authors for their contributions, and especially all reviewers for their important work in ensuring the high quality of the published papers. We are also grateful to the Editor in Chief of *Applied Physics B – Lasers and Optics*, Prof. Dr. F. Träger, for excellent cooperation. Last but not least, we thank the Springer production team for their careful preparation of this issue.

This feature issue reflects the state of the art of photorefractives at the end of this millenium. Optics is one of the key technologies of the future, and photorefractive materials and devices will be a vivid part of it.

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