

Memory bank

Photonics Materials for the New Millennium

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Information technology will shape the world in the 21 Century. It has already begun to affect everything from our personal lives to global management. The transformation is a result of being able to couple computers to high bandwidth optical telecommunication networks.

The role of material research has been crucial in the development of three optical technologies of the emerging information revolution: semiconductor lasers, optical fibres and optical amplifiers. The discovery and optimization of new photonic materials is vital in the exploitation of new optical phenomena and the development of optical devices and systems.

Recently structured photonic materials have created new opportunities for advanced optical technologies. Continued advances in photonic networks will depend on continued reduction in the cost of photonic components, increased functionality and increased levels of integration.

Improved nonlinear optical materials, novel nonlinear fiber devices and a better understanding of light-matter interactions are still needed to cultivate the technology's success and widen its impact. As we move into the New Millennium, breakthrough capabilities will be achieved through engineered semiconductor, dielectric and nonlinear optical materials.

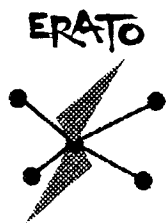
次世代フォトニクス材料・デバイス シンポジウム

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