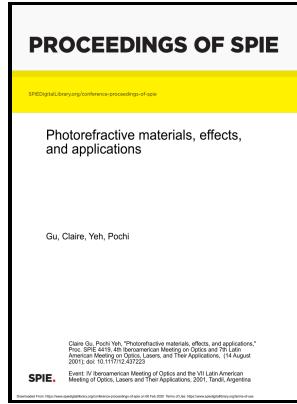


Photorefractive effects and materials

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Photorefractive Materials and Their Applications 1

They describe the temporal evolution of the population in the deep defect taking into account thermal β and optical S carrier generation, and carrier recombination coefficients γ on the deep defect, of the population of free carriers continuity equation , of the electron and hole current densities, and finally the Poisson equation that gives the strength of the space-charge field. The third section addresses the case of four-wave interaction where a phase conjugate beam is generated.

Polymeric photorefractive materials

In these media, information can be stored, retrieved and erased by the illumination of light. As with all technologies based on advanced materials, the rate of progress in the development of photorefractive applications has been principally limited by the rate at which breakthroughs in materials science have supplied better photorefractive materials. Polymers have many advantages, primarily related to fabrication, that could promise a breakthrough to the marketplace because of ease and low-cost of manufacturing.

Photorefractive Effect

The most commonly used optical experiment for studying the photorefractive behaviour of materials is TWM, and the configuration for this is shown in Fig.

Photorefractive Effects and Materials

The second section will cover the phenomenon of beam coupling, where a spatially shifted grating gives rise to unidirectional energy transfer between the beams that produced the grating. Preferably, if the polymer is heated to effect crosslinking, the crosslinked polymer is cooled to ambient temperature in the field.

Photorefractive Materials and Their Applications 2

Photorefractive materials are, by far, the most efficient media for the recording of dynamic holograms. The band transport mode is introduced to analyze the process involved in the photo- induced index variation.

Related Books

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- [Incontro con la Bibbia - leggere, pregare, annunciare : Convegno di aggiornamento : Facoltà di teologia e filosofia della Città del Vaticano, 10-12 aprile 2002.](#)
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