OPTICALLY INDUCED BIREFRINGENCE IN A AZOPOLYMER BASED ON THE PHENOMENON OF PHOTOISOMERIZATION

RESUMEN

The following article is a study of optically induced birefringence in an azopolymer Hema – HDR13. Generating anisotropy in the material through the photo-isomerization process for azo – compounds, chromophores are reoriented in the material through an external electric field, from an Nd: YAG laser, emitting with a wavelength of 532.8nm. Based on an absorption spectrum on an azopolymer samples was determined that the wavelength at which the phenomenon is given. Measurements were obtained for samples birefringence how efficient are able to observe the samples so that they can be used as raw material for optical storage devices. Varying the excitation laser power (Nd: YAG) were observed variations in signal strength, making observe a maximum saturation power chromophores which are reoriented in the sample. Also analyzed the theoretical models of photo – molecular orientation, and succeeded in identifying which of them corresponds to the results and establishing the characteristic times appearing in each for Hema – DR13.