



Photo-Induced Optical Density in Poly(Methyl Methacrylate) /Brilliant oil scarlet BThin Films

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Abstract: The photo-induced optical density of Brilliant oil scarlet /BPMMA thin films has been investigated using the pump-probe method. The results showed the dynamic evolution of the optical density where it increased rapidly in an exponential fashion, a photostationary state was reached and the relaxation phase decreased exponentially in a slow manner. Existence of the Angular Hole Burning (AHB) and the Angular Redistribution (AR) effects in the Brilliant oil scarlet Bmolecules in the PMMA polymeric host was proved. Finally, the results showed the behavior of the optical density as a function of the pump beam intensity of the Brilliant oil scarlet B/PMMA sample and the predominance of the photostationary state.

Keywords: Photo-Induced, Optical Density, Photoisomerization, Angular Hole Burning (AHB), Angular Redistribution (AR), Brilliant oil scarlet B.

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