Energy transfer in Acriflamin-Rhodamine-B doped PVA film

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Abstract

In the present study a dye pair Acriflavin (conc.$4x10^{-4}$M)-Rhodamine B (conc.$1x10^{-6}$ M to $5x10^{-4}$M) doped in PVA at room temperature has been taken to investigate excitation energy transfer. Steady state techniques have been adopted to obtain various energy transfer parameters e.g. overlap integral $\Omega_{DA,}$ and critical transfer distance R_{OA} which are found to be $2.2783x10^{-13}$ cm^6 M^{-1} and 53.59Å respectively. The energy transfer efficiencies obtained for the dye pair in PVA have also been compared with the corresponding efficiencies in water and methanol.

Keywords: Energy transfer, Steady state techniques, energy transfer efficiencies