

研究简报

聚对苯二甲酸乙二酯荧光光谱的激发波长依赖性研究

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摘要

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分类号

EXCITATION DEPENDENCE OF THE PHOTOLUMINESCENCE IN POLY(ETHYLENE TEREPHTHALATE)

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Abstract The photoluminescence spectrum of poly(ethylene terephthalate) (PET) excited by light with wavelength in the region from 260 to 360 nm was investigated. When the excitation wavelength was shorter than 300 nm, it was observed that the profile and structure of the photoluminescence spectrum of PET did not change with the increase of the excitation wavelength. When the excitation wavelength was longer than 300 nm, the wavelength dependence of the spectrum was observed. Excited in the region from 300 nm to the value that was a little larger than the maximum excitation wavelength, there was only one main peak at 367 nm in the photoluminescence spectrum. However, with the continued increasing of the excitation wavelength, another peak appeared at 387 nm and its intensity increased accompanying with the decrease of the intensity of the peak at 367 nm. At last, the peak at 387 nm became the main peak and the peak at 367 nm changed to the second main peak. It was suggested that the photoluminescence of 367 nm and 387 nm would rather come from the excimeric emission and the ground state dimer, respectively, than origin from the same emitting center.

Key words [\(Poly \(ethylene terephthalate\) \)](#) [Photoluminescence spectrum](#) [Excimeric emission](#) [Ground-state dimer](#)

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