

Photoluminescence of polymethyl methacrylate excited by a KrCl excilamp and a KrCl laser

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The photoluminescence spectra of various samples of polymethyl methacrylate (PMMA) excited by radiation from a KrCl excilamp at a wavelength $\lambda \approx 222$ nm with a bandwidth of ~ 2 nm and narrow-band radiation of a KrCl laser ($\lambda = 222$ nm), as well as the transmission spectra of these samples, have been investigated. It was found that the PMMA samples, according to their transmission spectra, can be grouped into three characteristic groups with different short-wavelength transmission edge, the change of this edge affects the photoluminescence spectra. It is shown that the power density of the radiation exciting the PMMA photoluminescence significantly affects the PMMA radiation spectrum in the ultraviolet and visible regions.

Keywords: photoluminescence, PMMA, KrCl laser, KrCl excilamp, Cherenkov radiation.

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