

Application of a synchronous integrator in phase fluorometry

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Abstract

It is demonstrated, that a luminescence spectrometer, in which signal detection is performed on the principle of synchronous integration, can be used as a phase fluorometer. For enhancing the accuracy, luminescence lifetime is measured by the zero method: the temporal shift of the synchronointegrator's reference signal is measured relative to the excitation wherein the output signal equals to zero. Besides lifetime measurement, the phase zero procedure, unlike the stroboscopic ones, allows to resolve not only phosphorescence spectra, but fluorescence ones as well.
