

## N2 laser fluorescence spectrometer using boxcar integrator

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Abstrak

**ABSTRACT**

Observation of fluorescence decay signal of condensed-state molecular samples in the time domain has proved very useful for its identification and analysis. In order to overcome the noise problem in the generally weak fluorescence signals a double-gated boxcar integrator has been designed and incorporated into a spectrometer. The design concept and the working principle of this spectrometer is presented along with detailed description of its subsystems. Performance of this spectrometer has been tested with well-known sample (rhodamine 6G) and the results are duely analyzed. Application of this spectrometer to the measurement of fluorescence spectrum and mean life time of an E. Cali bacteria sample is also described in this work.