

Instrumentation for Scientific Measurements

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Fig.1 Photon-counting-type phase-modulation fluorometer.



Fig.2 Measurement system of the geometric phase by use of a multichannel Fourier-transform spectrometor.



内容:

Our research interest is focused on making an instrument for scientific measurements and developing methodology for optical and/or spectro-physical measurements. Our research area covers fluorescence lifetime measurements, fluorescence anisotropy measurements, polarized-light measurements, terahertz ellipsometric measurements, surface plasmon resonance, and so on. Theree examples are shown in Figs.1~3. Figure 1 shows a photon-counting -type phase-modulation fluorometer, which can be used in a low-light-level situation with an improved resolution time. Figure 2 shows a multichannel Fourier-transform spectrometer equipped with a guarter-wave plate for measuring the geometric phase in the polarized light. Figure 3 shows a double-modulation terahertz (THz) ellipsometer used for measurements of the thickness of the thin paint film coated on the metal surface.

Expertise:

- Applied Optics
- Applied Spectroscopy
- Multivariate Analysis

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