

Identification of the 19.2nsec decay component of quinine sulfate. Spectrum was produced in less than one minute. Light pulser rate: 40,000 per sec.

Fast and accurate nanosecond fluorescence lifetime spectra using the single-photon counting technique

A digital approach

Single-photon counting, a highly sensitive technique which actually samples individual quanta of light, is generally acknowledged to be the best method of measuring very low light levels. Now Ortec has applied this technique to the field of nanosecond fluorescence spectroscopy. The Ortec Model 9200 Nanosecond Fluorescence Spectrometer uses a short duration optical light pulse to excite the sample and measures the decaying fluorescence intensity as a function of time over several decades.

Our system offers sensitivity and accuracy increased by orders of magnitude compared to existing analytical techniques. This new system is already producing outstanding results in studies of chemical reaction rates, molecular structure, and molecular conformation changes.

Improved data reduction

A multichannel analyzer records each detected fluorescence photon against a time base for immediate CRT display or Teletype printout of the spectrum. Data is manipulated and stored in a digital,

computer-compatible mode. A computer interface can thus be incorporated to facilitate reduction of complex data.

The 9200 system will measure both single and multiple decay components. Multiple components are clearly represented on the spectrum and easily read. (The spectrum above shows the straight line response of a sample having a single lifetime.)

Sensitivity is better than 1 ppb quinine sulfate in sulfuric acid. Linearity is typically better than 1%.

System components

The exact system configuration will depend on the user's particular requirements, but the basic system consists of a nanosecond light pulser, sample chamber including photomultiplier, multichannel analyzer, and associated electronics. The entire system is designed around NIM-standard modules for enhanced flexibility, reliability, and ease of servicing.

Data sheet on request

If you'd like more information on the Ortec Model 9200 Nanosecond Fluorescence Spectrometer, we'd be happy to send you a data sheet that tells all about it. Just write or call Ortec Incorporated, 110 Midland Road, Oak Ridge, Tenn. 37830. Phone: (615) 482-4411.

In Europe: Ortec Ltd., Dallow Road, Luton, Bedfordshire. Phone: LUton 27557. Ortec GmbH, 8 München 13, Frankfurter Ring 81, West Germany. Phone: (0811) 359-1001.



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supplies 50 percent of the blood needs of that area.

Possibly H.R. 853 is needed to prod the American public into making the gift of blood that is so essential to the well-being of their less fortunate fellows and costs them only a few minutes of their time with slight physical discomfort. Even larger subsidies may be necessary to obtain kidneys, skin, and other tissues for the rapidly increasing demands of organ transplantation. On the other hand, cynicism and materialism may be less rampant than we are sometimes led to believe. Spared from legislation such as H.R. 853, perhaps we can yet follow the English example.

RICHARD H. ASTER
Milwaukee Blood Center, Inc.,
Milwaukee, Wisconsin 53233

Reference

1. J. Vaughn, *Transfusion* 7, 212 (1967).

National Register

Concerning the demise of the National Science Foundation's register of scientific and technical personnel (News and Comment, 1 Oct., p. 42), it should be mentioned that in the spring of 1970 the council of the American Sociological Association (ASA) voted to discontinue sending out questionnaires for the national register. This regrettable action was taken on the grounds that the ASA could not control the uses made of the data by government agencies and other persons and thus might subject the membership and other sociologists to inquiries to which they had not given their specific consent. The issue is related to a more general concern with the use and abuse of data banks (1).

Whatever the merits of this decision, the discontinuation of the national register is a blow to those who, like myself, have been engaged in research on the career lines of scientists and related problems. The register, with all its deficiencies, has been the most valuable instrument for tracing, on a large scale, the professional histories of individuals. It is to be hoped that a new, improved phoenix will rise from the ashes.

WALTER HIRSCH
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Reference

1. P. H. Rossi, *Amer. Sociol.* 5, 389 (1970).

One aspect of the usefulness of the national register is not mentioned in Gillette's account of its discontinuation. In contrast to an ad hoc survey of a particular field, all respondents to the register were required to declare what they considered to be their field of greatest scientific specialization or competence. In this way the "bandwagon" aspect was avoided that is so frequently associated with ad hoc surveys, and which often results in the overstatement of the degree of professional commitment to a particular field at a given time.

For this reason, despite the register's shortcomings, there was little reason to suspect it of bias. Useful conclusions concerning manpower trends over a decade could be drawn from the register's figures with a much greater degree of assurance than from two ad hoc surveys made 8 to 10 years apart.

Particularly in interdisciplinary fields, ad hoc surveys can lead to erroneous conclusions about actual manpower. It is possible for an individual who described himself to the register as a chemical oceanographer to appear simultaneously on survey lists of "nutritionists" (through an interest in marine amino acids), "atmospheric scientists" (through an interest in air-sea material exchanges), and "public health workers," (through a faculty appointment in a department of a school of public health). The choices available in the register were carefully designed so that such side issues were identified, but the respondent was placed firmly in the field of his maximum professional competence.

JOHN LYMAN

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Apology to Rhine and Soal

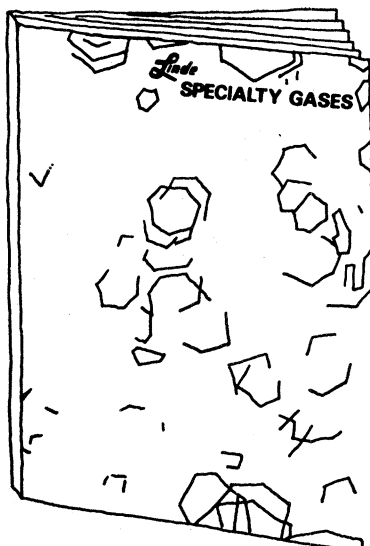
During the past year I have had some correspondence with J. B. Rhine which has convinced me that I was highly unfair to him in what I said in an article entitled "Science and the supernatural" published in *Science* in 1955 (26 Aug., p. 359). The article discussed possible fraud in extrasensory perception experiments. I suspect that I was similarly unfair in what I said about S. G. Soal in that paper.

GEORGE R. PRICE

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28 JANUARY 1972

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