

LETTERS

(Continued)

affect the modern dramatist or the contemporary political thinker are very rare birds.

With the ever increasing need for the effective person to devote more and more attention and time to the details of his professional tasks, it seems unlikely that he will find more time to study the problems and attitudes of other professions. Perhaps we will see the rise of a profession devoted to increasing and maintaining communication and understanding between segments of the intellectual community.

Richard Hutson
University of Colorado

Individualists and publication

Every successful technical journal receives a plethora of manuscripts made worthless by faulty logic, incorrect or incomplete postulates, or some other or others of scores of possible reasons. But occasionally a valuable paper is mistaken for one of these hopeless ones because it uses a currently unpopular postulate, or unconventional mathematics, or uncommon nomenclature, or cetera. A mark of the wisdom with which the journal is directed is its policy with respect to papers that depart from the conventional, for, as is commonly acknowledged in the abstract, far-reaching new ideas often look strange, so strange that papers on them may be dismissed lightly, as only more hogwash. This is quite understandable in view of busy editors having quite enough to do with overseeing and controlling papers that are more conventional and therefore "safer".

Now our modern plan of programmed, communal scientific thought is relatively new. But communal living is as old as the culture; and our problem-solving techniques have evolved over many centuries. One of them is that an accused has the right to defend himself before his judges.

Publication is as important to the individual scientist, and to the scientific community, as many legal controversies. Yet in protecting pub-

lication rights we are still in the stone age. A submitted paper goes to an editor who, in turn, sends it to one or more reviewers, one of whom might be the editor himself. If negative reviews result, the author need never be informed why the paper is rejected. He is never informed who the reviewers are; there is no way for him to prove to his judges whether the reviewers were informed or naïve, judicious or prejudiced, apt or inept. There is no appeal, no court of last resort. Final decision is left, often without adequate safeguards, to the editor and his board.

This policy is wrong in two respects. It is unfair to authors, and it places undue responsibility on the editorial board. If the board decides to publish, it runs the risk of wasting money, time, and precious journal space, and of incurring ridicule, if the paper proves to be worthless. It therefore may well fail safe by rejecting the paper—but then it runs the risk of letting some important innovation die aborning.

It is with this latter risk that I am concerned. Editorial boards have long given in too easily to the temptation to reject. There is need of a higher court. I support the idea of a journal selecting articles by the criteria proposed by Professor Sachs (*PHYSICS TODAY*, June 1966), provided that the editorial board hears not only the reviewers' criticisms, but also the author's rebuttal of those criticisms, before rejecting an article.

Dale M. Grimes
University of Michigan

High-energy physics—a comment

We have read with interest the article "High Energy Research" by George Tautfest (*PHYSICS TODAY*, July, page 69). This concise survey of recent developments in the field seems to us to require some clarification in the section dealing with wire chambers, and therefore we would like to make the following points:

1. The recovery time quoted for wire spark chambers, 200 microsec, is optimistic. As far as we know, no one has obtained such recovery times for a system of wire chambers operating in an experiment.

Faster, More Accurate PARTICLE SIZE ANALYSIS



WITH THE WATSON IMAGE SHEARING EYEPIECE

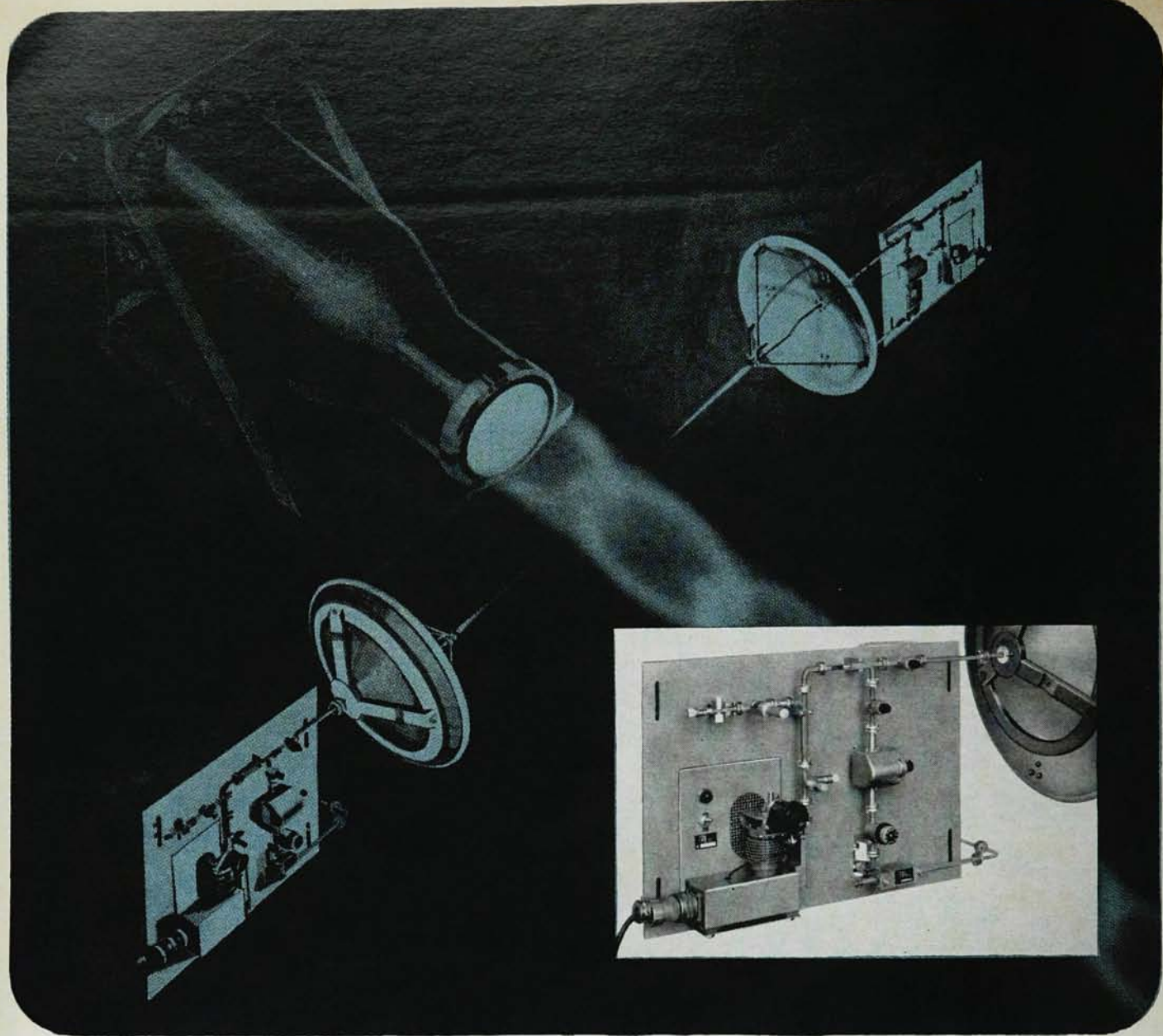
The Watson Image Shearing Eyepiece is a micrometer eyepiece which can be fitted to most standard microscopes. It provides a rapid method of measurement of small objects with far greater accuracy than can be achieved with a conventional screw or scale micrometer eyepiece. Use it for particle size analysis, measurement of films, wire, transistor components, low load hardness indentations, as well as for bacteriological and biological specimens.

Image shearing is obtained by a beam splitter and two moving mirrors, the movement of the mirrors being a measure of the lateral dimension of the object in the direction of the shearing. The direction of shear can be changed by turning the eyepiece. A graticule indicates direction of shear and defines a standard area for particle counting. Overall magnification is 20X.

Hacker

For particulars or demonstration, write to:

WILLIAM J. HACKER & CO., INC.
Box 646, W. Caldwell, N.J., CA 6-8450 (Code 201)



Millimeter interferometers for missile research and other plasma diagnostic applications...

TRG millimeter microwave interferometers (from 12.4 to 220 Gc) provide engineers and physicists with a simple, accurate means of measuring plasma densities and temperatures. The small size and great flexibility of these precision systems make them well suited to applications such as:

1. *Missile wake and re-entry investigation*
2. *Arc and flame studies*
3. *Thermonuclear fusion*
4. *High temperature shock phenomena*
5. *Magneto hydrodynamic (MHD) power production*
6. *Basic plasma research*

The TRG 70 Gc plasma diagnostic system above was designed and built entirely from standard millimeter

components. In operation, the rocket exhaust from the engine (under test) is centered between paraboloid or elliptical reflectors which collimate or focus microwave energy as desired. Features of this system are:

- *Direct, continuous calibration*
- *Wide dynamic range of phase shift ($>360^\circ$)*
- *Wide dynamic range of attenuation changes (up to 50 db)*

For detailed information, contact your TRG representative or write to: 400 Border Street, East Boston, Massachusetts 02128. Phone (617) 569-2110.



TRG/a Subsidiary of Control Data Corporation

LETTERS

(Continued)

2. The juxtaposition of "Lindenbaum-Yuan" with the detailed description given by Tautfest of a recent Brookhaven experiment as an example of "on-line experimental control" might suggest to the casual reader that the experiment was carried out by that group. This experiment was in fact carried out by ourselves together with a group from Carnegie Institute of Technology during the summer of 1965. Preliminary results were recently published (*Phys. Rev. Letters* 16, 855, 1966). The experimental system was the result of a two-year development program carried out by us in collaboration with the Instrumentation Division of Brookhaven Laboratory and had no connection with the Lindenbaum-Yuan development of large scintillator arrays.

3. Our experiment was the first to use the PDP-6 of the on-line data facility of Brookhaven. It is a sign of the rapid progress in this field that we were able to saturate this moderately powerful computer during parts of our run, when the event rate exceeded 150 events/pulse (50 events/sec).

4. Most of the material used by Tautfest in his description of this experiment is not from reference 15 but from Fujii et al., *IEEE Trans. on Nucl. Sci.* NS-12, no. 4, 231 (1965).

A request for permission to use the figures, omitted through oversight, would have avoided this misunderstanding.

E. W. Anderson, E. Bleser,
G.B. Collins, T. Fujii, N. C. Hien,
J. Menes, E. Turkot
Brookhaven National Laboratory

A CORRECTION: The hydrogen maser measurements attributed in our August article to Norman Ramsey were indeed discussed by him in his talk. They were made, however, at the National Bureau of Standards, Boulder, Colo., by a joint effort of NBS and Varian personnel using Varian hydrogen masers. □

Arthur D. Ballato,
Robert V. McKnight
US Army Electronics Command

CONCERNED WITH HIGH RESOLUTION SPECTROSCOPY AND NUCLEAR COUNTING?



... YOU SHOULD KNOW ABOUT THE STURUP 1400 SERIES

The Newest

A.E.C. COMPATIBLE MODULAR INSTRUMENT SYSTEM!

LINEAR AMPLIFIER

- Delay line or RC shaping
- Risetime less than 80 nsec
- Integral linearity 0.1%
- Both prompt and delayed unipolar and bipolar outputs

SINGLE CHANNEL ANALYZER

- Routing gate outputs variable 1-5 μ sec
- Internal or external strobing
- Internal or external baseline control

FAST COINCIDENCE

- Resolving time (2T) adjustable 5-100 nsec
- 4 coincidence inputs, one "anti" input
- Fall to chance rate in less than 1 nsec

DUAL LINEAR GATE

- Two independent gates in one module
- Essentially pedestal free
- Single or bipolar input and output
- Gate delay variable up to 1.5 μ sec
- Gate width variable from .5 to 50 μ sec

These modules are part of the reason Sturup now offers the most flexible, and economical fast/slow coincidence system. An internal switch in the Linear Amplifier removes all integration from the bipolar output for maximum timing accuracy, while retaining an integrated unipolar signal for optimum energy analysis. This is just one of the many extra features that guarantees the researcher the very best in overall system performance.

Write today for further information
on these and other new modules.



CANBERRA INDUSTRIES
STURUP NUCLEAR DIVISION
50 SILVER ST., MIDDLETOWN, CONN.