

rium of Elastic Systems and Its Applications, Dover (1966).

HERSHEL MARKOVITZ
Carnegie-Mellon University

Wrong accelerator

In your May 20th-anniversary issue of PHYSICS TODAY one minor perturbation attracted my attention. In D. Allan Bromley's summary of progress in nuclear physics, the illustration on page 33 obviously is not Chalk River's 3.5-MeV Van de Graaff. Rather, it has the appearance of an air-insulated Cockcroft-Walton set.

As a collector of accelerator illustrations, I would be interested in knowing which C-W set is depicted.

E. ALFRED BURRILL
High Voltage Engineering Corporation

One small problem—the caption of the accelerator picture in my article was mixed up and is that appropriate to a picture you didn't use. The actual figure is of the NRC Ottawa 600-kV Cockcroft-Walton accelerator that ceased operation in 1948—not of the Chalk River 3.5-MeV Van de Graaff.

D. ALLAN BROMLEY
Yale University

Finding Oppie's hat

Harry Barton's account in your 20th-anniversary issue of my part in getting PHYSICS TODAY started was so warm and flattering that I hate to correct the record. But credit for finding the cover photo of Oppie's Hat Rampant on a Field of Cyclotron Plumbing belongs to Miriam White, who was with us for a short while in the first days of the magazine. She knew of it and of its aptness and got hold of a copy.

As it symbolized Physics Today then, it symbolizes Physics Then today.

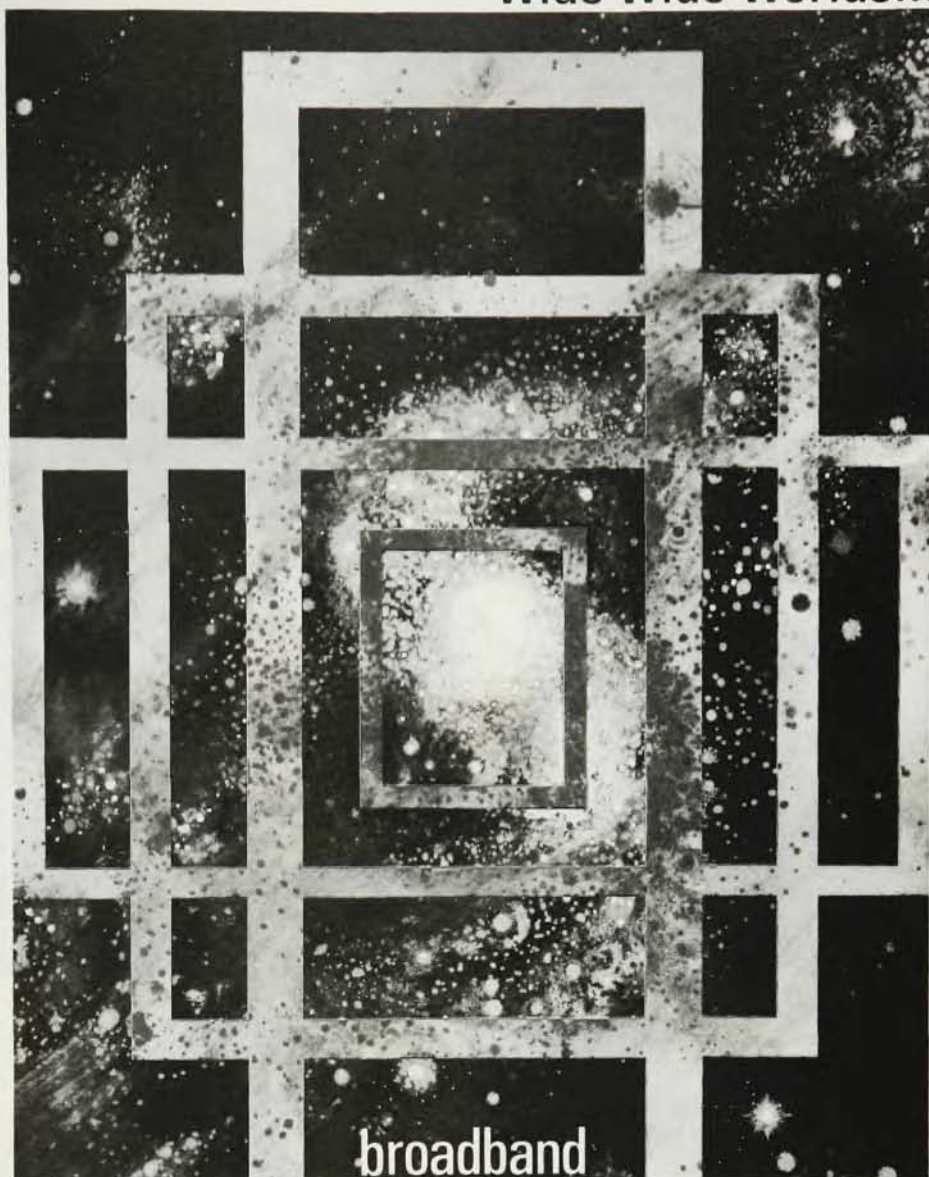
DAVID A. KATCHER
Arthur D. Little, Inc

Rare-earth shapes

I do not wish in any way to detract from the merits of the Berkeley group on the shapes of the rare-earth nuclei which you describe in the March "Search and Discovery."

However, in all fairness, it should be mentioned that the existence of higher moments in the nuclear shapes has

wide wide worlds...



broadband
spectral response
in a single
multiplier-phototube



The new 541N-09 multiplier-phototube from EMR Photoelectric has the extra bandwidth necessary to deliver useful response across an exceptionally broad spectral range from 6000 Å to 1100 Å in the far UV. A typical quantum efficiency of 10 percent or more over a major portion of the band, coupled with low dark current of

2.5×10^{-11} A at a gain of one million, yields more data from a single tube. A magnesium fluoride window minimizes spurious radiation effects. Our 541N-09, with the same rugged vertebrate tube structure proven in Lunar Orbiter, A.T.S. and many other missions, is fully space qualified—a logical choice for broader spectral horizons.

EMR PHOTOELECTRIC

EMR DIVISION OF WESTON INSTRUMENTS, INC. • A SCHLUMBERGER COMPANY
BOX 44 • PRINCETON, NEW JERSEY 08540

Regional Sales Offices: DENVER 303 • 789-1834 • LOS ANGELES 213 • 670-7012 • WESTPORT CONN. 203-226-0795 WASHINGTON, D. C. 301 • 588-3122

9499

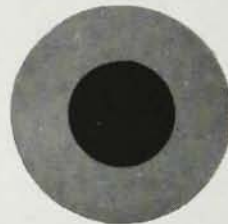
finally a choice.



.67:1



1.5:1



3:1

A choice of SUPERCON® T48B in three new copper to superconductor ratios. It's no longer necessary to design your magnet around the only type available. With Norton's three new types, you can now vary the packing factor, current capacity and stability to suit your particular needs.

SUPERCON T48B is available from stock with copper to

superconductor ratios of .67:1 (Type S), 1.5:1 (Type M) and 3:1 (Type G). Its copper jacket is metallurgically bonded to the superconductive core for excellent stability. SUPERCON T48B is suitable for applications up to 90 kilogauss. It comes insulated or uninsulated in a variety of core diameters. It's your choice.

Write or call for our new 4-page brochure:

NORTON

SUPERCON DIVISION

FORMERLY NATIONAL RESEARCH CORP.
9 ERIE DRIVE NATICK, MASS 01760

Cable Address SUPERCON NATICK Tel: 617 655-0500

been discussed several times before and that experiments in Copenhagen on the inelastic deuteron scattering gave the first evidence for such shapes in the rare-earth region (B. Elbek, M. Kregar and P. Vedelsby, *Nuclear Physics*, **86**, 385, 1966).

BENT HERSKIND
Niels Bohr Institutet

A REPLY FROM BERKELEY: We are of course familiar with the pioneering work of Bent Elbek and his colleagues, and we referred to it in our *Physics Letters* publication (**26B**, 127, 1968).

Elbek and his collaborators did indeed observe an anomalous behavior that they attributed to a hexadecapole component in the rare-earth region, but they were able to make only a crude estimate of its magnitude. They quote a β_4 of 0.09 in the gadolinium region; we find 0.036 for Gd^{158} . More serious, they were not able to determine the sign of β_4 . They speculate, however, that it should be negative near the beginning of the deformed region (which includes gadolinium) whereas we definitely find that it is positive. They were unable to detect a β_6 component of the shape whereas we obtained the sign and approximate magnitude.

The experiment of Elbek and his colleagues—and particularly the crude analysis—were not such as to compel belief in the results that they quote. In our work the very detailed agreement between experiment and theory makes it extremely unlikely that our interpretation is in error.

BERNARD G. HARVEY
University of California, Berkeley

Dropout rate at Imperial

I feel I must comment on your editorial remarks about Imperial College on page 23 of the March issue ("it has long been known as a difficult college for a student to get into but an easy one for him to drop out of").

It is true that it is fairly difficult to enter this department as an undergraduate, but personally I don't think it is correct to say it is easy to drop out of. The situation in recent years is that 84% of our entry obtain their bachelor's degree here at the end of the minimal period of three years, a further 4% to 6% after a fourth year, while the remaining 12% to 10% leave because of academic failure,

An Important Survey About Nuclear Instruments

Instructions:

1. Check which of these 7 Gripes are Yours about Nuclear Instrumentation:

- ☐ Baseline Shift with high count rate
- ☐ Non-Linearity
- ☐ Peak Shift
- ☐ Pulse Shape Sensitivity
- ☐ Inadequate Service
- ☐ Poor Reliability
- ☐ Inadequate Warranty

2. Tear Out Coupon Along Dotted Line, Fill in Name & Address and Return It To Us.

NAME _____ PLEASE PRINT

ADDRESS _____

CITY _____ STATE _____ ZIP CODE _____

GEOSCIENCE NUCLEAR was created by 13 men whose combined work in the Nuclear Instrumentation field represents 82 years of hard-core invaluable experience. These men felt it was time to develop a "Gripe-Free" line of nuclear instrumentation. These men have built an organization that knows your needs. Their experience, backed by the parent firm, Geoscience Instruments Corp., is now ready to bring you the complete, "gripe-free" line of Nuclear Instrumentation—Stabilizers, Pulsers, Analyzers, Interfaces. "It Works When You Plug It In."

GEOSCIENCE NUCLEAR

Division of Geoscience Instruments Corp.
2335A Whitney Ave., Hamden, Conn. 06518
Tel.: (203) 288-5651



"Gripe-Free Nuclear Instruments"