

LETTERS

Accessing Atoms via Synchrotron Radiation

In April's Search and Discovery story "Many Nations Build the Latest in Synchrotron Light Sources" (page 17), Barbara Goss Levi lucidly describes the widespread activity in construction of "third generation" light sources that rely primarily on insertion devices to produce radiation. The summary of promising applications of the new facilities might well have included atomic physics, where synchrotron radiation has already led to important advances in the exploration of structure and dynamics.¹ In particular, hard, highly monochromatized tunable x rays from these sources provide unique opportunities for the study of otherwise inaccessible atomic inner-shell phenomena, including Raman transitions and threshold photoelectron satellites.²

References

1. H. Winick, S. Doniach, eds., *Synchrotron Radiation Research*, Plenum, New York (1980). B. Crasemann, F. Wuilleumier, *PHYSICS TODAY*, June 1984, p. 34.
2. T. Baer, B. Crasemann, J. L. Dehmer, H. P. Kelly, M. O. Krause, D. W. Lindle, "Atomic and Molecular Science with Synchrotron Radiation," in "Future Opportunities for Research in Atomic, Molecular, and Optical Physics," report PUB-5305, Lawrence Berkeley Laboratory, Berkeley, Calif. (1991).

BERND CRASEMANN
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5/91

Scientific Authorship: What's in a Name?

Nowadays, the standards for and meanings of authorship on a scientific paper are very pluralistic. In some fields, like solid-state physics, the authors are listed in the order of the amount of work each contributed; in particle physics the order is alphabetical. While some people adhere to the APS guidelines saying that only authors who have made substantive contributions to the work should be listed, others do not. Furthermore,

the authors can have very different skills and be of different levels of seniority, leading to different roles in the project written up. Finally, to confuse things further, the number of authors can vary over two orders of magnitude.

Thus if I read a paper with more than one author, I have no idea who did what. If one considers that in every other aspect science is driven by optimizing the description of reality, this should strike anyone as a strange aberration.

I have the following suggestion for an improvement: Put the names of the authors on the paper in alphabetical order, and add an "authorship" section explaining what each author contributed. In style, content and length it could be similar to the customary acknowledgment section. In addition to explaining the contributions of each author realistically, this section could also serve as a quick guide to whom to contact if one would like to address a specific point in the paper. This approach would give a public record of the type and quality of a writer's contributions, which could be used for professional hiring purposes and in science writing.

EUGEN TARNOW
Xerox PARC

4/91

Palo Alto, California

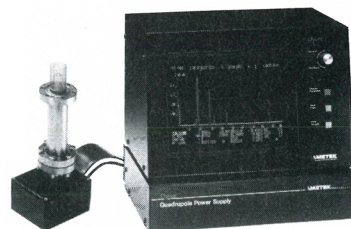
Physics Reinstated at Portland State

The letter headlined "Physics Deported at Portland State" in your June issue (page 145) prompts me to write.

It is true that a committee at Portland State University, established to respond to a budget reduction requirement imposed as a result of a tax limitation vote, recommended that the undergraduate degree program in our department of physics, as well as the programs in some other areas, be either put on hold or eliminated. (No recommendation was made to eliminate or reduce the graduate programs in physics.)

However, after consideration of the recommendation, President Judith Ramaley reinstated the undergradu-

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LETTERS

ate degree program in physics. Thus I am delighted to relate on behalf of our physics department that the report of its death is an exaggeration (*pace* Mark Twain).

We look forward to continuing a successful undergraduate degree program, as well as two graduate degree programs, in physics at Portland State University.

WILLIAM W. PAUDLER
Dean, College of Liberal Arts
and Sciences
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7/91

Magnet Lab: A Near Miss for New Mexico?

The news story "Coming Attraction: NSF Rejects MIT, Picks Florida State for Magnet Lab" (January 1991, page 53) gives some misimpressions. First, the NSF team visited New Mexico State University as well as Florida State University and MIT. Second, those of us close to the process did not find the choice of FSU "shocking" at all and are very supportive of NSF's decision. The NMSU-Sandia National Laboratory team was outstanding and could have met the challenge of regaining the world leadership lost to France, Germany and Japan over the past 30 years. We had a very competitive proposal, one that presented a viable alternative to MIT or FSU and had many of the same characteristics as the Florida State proposal. Furthermore, we are a growing Carnegie Research Category I Minority Institution with aggressive and forward-thinking upper-level and college management of research programs. We just were not selected.

It is probably a shock to many that there are numerous institutions like NMSU that, although not usually considered to be on the list of the top 10 research universities, are highly competitive and have world-class capabilities in engineering and science research.

J. DERALD MORGAN
New Mexico State University
Las Cruces, New Mexico

3/91

A Short Exposure to 'Doc' Edgerton

When I saw the obituary of Harold Edgerton in your April issue (page 126) I was reminded of my sadness upon hearing of his death in January. I met "Doc" Edgerton by chance one day in 1976. I was a freshman physics student at Rutgers, visiting a high school classmate of mine who was

attending MIT. We were wandering the hallway on the way back from her classes, looking at the pictures on the walls. By now almost everyone has seen them: the bursting balloon, the exploding apple, the drop of milk. But they were brand new to us, and we were fascinated.

Suddenly an elderly gentleman charged out of a nearby office, said, "You like those pictures? Come here, I'll show you something," and hustled us into one of the labs. He took us on a whirlwind tour of the place and then installed us at one of the sinks, where green-dyed drops of water could appear to stand still or even flow backward, depending on the speed of flow in relation to the frequency of the adjacent strobe light. He spent a few minutes asking us about what classes we were taking and why we were interested in physics. Then he looked at his watch and ran out of the room, stopping only to say over his shoulder, "Turn off the lights when you're done."

"Who is that guy?" I asked my friend.

"I have no idea," she answered.

"Well, it's nice of him to let us play in his lab."

It wasn't until much later that I heard of the famous Doc Edgerton: Reading an article about the inventor, entrepreneur and, above all, teacher, I suddenly realized that I was reading about someone whom I had been privileged to meet. All who were his students, whether for five years or five minutes, are richer for having known him.

SHERRI CHASIN CALVO
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4/91

Hamamatsu Photonics Lab: Given to Gotham

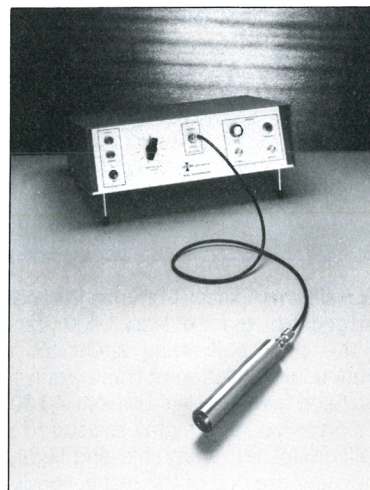
I found the news story entitled "Several Japanese Corporations Establish New Labs in United States" (February 1991, page 81) very interesting and informative.

However, I must point out that it overlooked Hamamatsu Photonics KK, which in 1986 selected the City College of the City University of New York to house and operate the Photonics Application Laboratory—the first such lab in the United States.

The laboratory, which was supported by an initial \$625 000 grant from Hamamatsu, conducts research into the basic nature of light; light scattering in random and turbid media; three-dimensional optical imaging in the time and angular domains; ultra-

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