

letters

even sent to prison as a result of Trofim Lysenko's rise. I don't believe anything similar has happened to SDI opponents. We should not cheapen the memory of the suffering of Stalin's victims.

VITALY KRESIN

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WILSON REPLIES: Of course, I and my audience remembered the geneticists who were sacrificed because of Stalin's ignorant adoption of Lysenkoism, just as we remembered the multitudes killed in the purges.

I was trying to draw a parallel between the gulf that separated Stalin from the advice of Soviet scientists and the present division between President Reagan and the main body of American scientists. Were SDI to be faulty, it could lead to much worse disaster. The serious problem is how a non-technical head of state comes to a technical judgment. President Eisenhower had an excellent system in his outstanding Science Advisory Committee; would that Reagan had a comparable group today!

ROBERT R. WILSON
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4/87

Another detector at Tristan

In your news story on the Tristan e^+e^- collider in Japan (January, page 21) it is implied that there are to be only three detectors at Tristan. There is in fact a fourth detector, a search for highly ionizing particles; this SHIP detector is installed in the Nikko interaction region. Entitled "Nikko-Maru," this experiment is funded by the US National Science Foundation and by KEK, with five collaborating institutions: the University of California, Berkeley; Gifu University; Harvard University; KEK; and the Institute for Space and Astronautical Science (Japan). Detection is based on solid-state track detectors (see the article by Steven P. Ahlen, P. Buford Price and Gregory Tarlé in PHYSICS TODAY, September 1981, page 32) placed both inside and outside the vacuum chamber. The method is an exceedingly clean way to search for particles with electric (or magnetic) charge exceeding approximately $10e$, particles not explicitly included in standard theories but of supreme interest if found. Although this project is small, both in volume (about 1 m^3) and in cost (much less than \$1 million), in comparison with the others at Tristan, it should not be ignored, as it is representative of the

range of projects supported by the KEK directorate and by the NSF.

KAY KINOSHITA
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Women in physics

This letter is a response to the letters on math anxiety and women in the August 1986 issue (page 15).

I am a retired woman physicist who this past May had her 93rd birthday. I retired when I was 83. I have just attended my 70th class reunion at Wellesley College.

Upon graduation from college I became gainfully employed. I took a master's degree in physics at MIT in 1923, and a PhD in math in 1930. For 24 years I taught physics at Wilson College in Chambersburg, Pennsylvania. I have had several positions with the Federal government: at the Office of Scientific Research and Development; at the NSF; as an examiner in the US Patent Office; on the scientific staff of the National Bureau of Standards; and at the Watertown Arsenal, where I was involved with radiological shielding and visited all the radiological laboratories. That I was a woman did not interfere with the responsibilities a man might have. The responsibilities assigned me were independent of sex.

Education, ability and personality are the important factors that should be considered when a person is appointed to a position. Two of the outstanding women teaching physics when I was an undergraduate were both PhDs from Cornell: Louise S. McDowell at Wellesley, and Frances Wick at Vassar.

DOROTHY W. WEEKS
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A neutron optics update

In a letter (May 1986, page 11) commenting on the article about soft-x-ray microscopes (August 1985, page 22), Albert V. Baez sets the historical record straight on the use of zone plates for focusing x rays. He also asks if anyone has demonstrated the use of zone plates to focus massive particles, recognizing that such an experiment "would have at least pedagogic value."

We have demonstrated focusing and imaging of slow neutrons (speeds on the order of 200 m/sec and wavelengths around 20 Å) by zone plates¹ and have used them to demonstrate neutron interference by division of wavefront.² Our zone plates, produced by micro-

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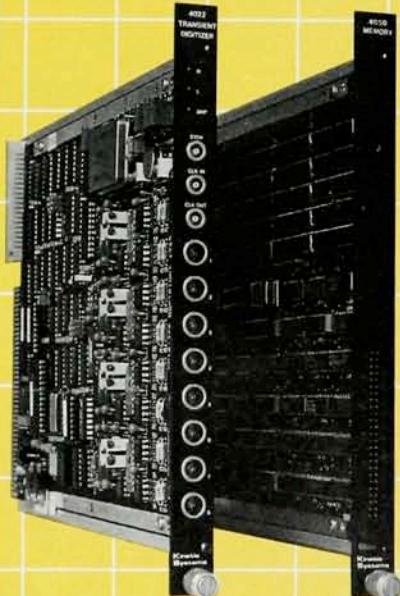
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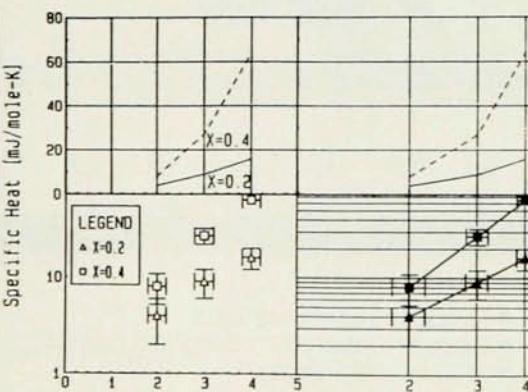
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photolithography, were of the phase-reversal type rather than the transparent-opaque type mentioned by Baez, and were consequently much more efficient.

The field of neutron optics, though suffering in comparison with x-ray optics from the lack of suitably bright sources, is alive and well, mainly in the area of subtle experiments that bear on the foundations of quantum mechanics.³ Their pedagogic value, at least, is established.

References

1. P. D. Kearney, A. G. Klein, G. I. Opat, R. Gähler, *Nature* **287**, 313 (1980). See also A. G. Klein *et al.*, *Phys. Lett.* **83A**, 71 (1981).
2. A. G. Klein, P. D. Kearney, G. I. Opat, A. Cimmino, R. Gähler, *Phys. Rev. Lett.* **46**, 959 (1981).
3. For a review, see A. G. Klein, S. A. Werner, *Rep. Prog. Phys.* **46**, 259 (1983).

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Colliding with von Kármán

I much enjoyed William Sears's article on Theodore von Kármán (January 1986, page 34). I had the privilege of von Kármán's acquaintance when I was a junior postdoc at Caltech in the early 1930s. He was a tremendous character.

There is one anecdote about him not mentioned by Sears. Von Kármán's gifts were many, great and varied but they did not appear to include skill in car driving. I recall that he held some kind of more than local record for the number of crashes and collisions in which he was involved. It was widely believed that he treated cars on roads as a problem in the kinetic theory of a one-dimensional gas. Thus there was a kind of analog to the mean free path between collisions, which were therefore not only inevitable but also always inelastic.

Caltech at that time was full of great and famous people, not the least of whom was its president, Robert A. Millikan, who was held in the highest regard. Indeed it was said that when, inevitably, Millikan was seen approaching the Pearly Gates, Saint Peter would get on the phone to the Chairman to say, "I'm sorry, God, you'll have to move over, here comes Millikan."

J. F. ALLEN

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6/86