

LETTERS

Ge(Li) beans

SOMETHING TO CHEW ON.

Societies and deferments

If deferments for graduate students and occupational deferments are ended, we may find the science departments in our universities vacated and our research laboratories depleted of their young scientists. I hope this dismal prediction is extremely pessimistic, but so far I have heard no really convincing evidence to the contrary. If the war continues for several years, it could create a scientific vacuum that would be extremely damaging to our country. The most amazing fact about this situation is that to my knowledge none of our nation's prominent scientists or scientific societies has offered anything but token resistance to the proposed changes in our draft law and its execution. I have waited in vain to hear some testimony opposed to the ending of graduate-student and occupational deferments before the Congressional committees investigating the Selective Service System. As scientists we have an obligation to the American people to inform them of the vital importance of maintaining a strong scientific community in this country. It must be made clear to the general public that the best possible way for a scientist to serve his country is by doing good science. If we fail to do this, we have only ourselves to blame for any deterioration of science that results.

G. P. HUFFMAN
U. S. Steel Corp.

Student laboratories at MIT

In his July letter Enos R. Wicher of Harvey Mudd College asks about my statement in your March issue, "There are no laboratories connected with introductory courses at MIT." In answer I should explain that the standard fixed-format laboratories have been replaced by project laboratories where the student gets much more deeply immersed in a continuing project rather than working on isolated bits and pieces of experimental activi-

ties. There was no intention on the part of the faculty to decrease the student's contact with the real world but rather to make it more realistic and of greater educational value. Experimental experience is certainly essential to physical science, and the intention of the MIT curriculum is to provide the broadest range of experimental experience through demonstrations, corridor experiments and the deeply involving project laboratory.

ROBERT I. HULSIZER
Massachusetts Institute of Technology

Let's pay referees

There has been considerable verbiage in *PHYSICS TODAY* about the population explosion in publications, but the solutions always lack the boldness necessary for a significant arrest of this expansion. One question that requires an answer is, What should be published? Unless something like a dozen authors refer to a specific paper in the decade following its publication, the paper might just as well have remained unpublished (of what use has it been?). My own casual assessment of *The Physical Review* since the war is that over half of the papers have not met this requirement so that a reduction in the number of papers by at least a factor of two should be sought. But how can this be accomplished? The answer lies in a considerable improvement in refereeing, and this can only be accomplished by paying referees for their time. Since the average research paper costs in excess of \$25 000, I believe that a \$500 non-returnable deposit (about 2% of the cost of the research) should accompany every submission. For one thing, such a procedure assures us that the institution sponsoring the author will attempt to meet the required standards by some internal system of refereeing. (This \$500 deposit will, no doubt, also reduce the number of submissions, *prima facie*.) If the bulk of this \$500 is used to pay the referees, we can then require a first-rate job of

Five steps
to improve
energy resolution

Some things to check in order to get optimum performance from a Ge(Li) detector:

1. Minimize leakage current; remove moisture from all connectors.
2. Use an FET preamp with selected FET's; you may have to check out five to find one.*
3. For large volume detectors, use three or four FET's in parallel at the input.*
4. Select the main amplifier time constants to obtain best resolution.
5. Adjust (where possible) the ADC of the pulse height analyzer to accept the output pulse shape from the main amplifier.

Of course, there's a sixth step. You must start out with a high-resolution detector.

Typical intrinsic energy resolution for all our Ge(Li) detectors is better than 3 keV at Co⁶⁰.

Whatever the active volume or detector geometry may be, you should get this kind of performance. Our planar detectors (up to 15 cm³) achieve it. So do our cylindrical detectors (up to 30 cm³). And so do our five-sided coaxial detectors (up to 40 cm³). Test spectra at Co⁶⁰ are furnished with each detector.

If you have a Ge(Li) detector that is not giving you excellent resolution, call us. We'll be glad to give you our best advice. Even if it isn't one of our detectors. And send for a copy of our GUIDE TO THE USE OF Ge(Li) DETECTORS.

*If you prefer, we can supply a complete detector-cryostat-preamplifier system with guaranteed performance.

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