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REVISION OF PROPOSAL TO SEARCH FOR MULTIGAMMA

FROM MAGNETIC MONOPOLE PAIRS

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As a consequence of the ISR meeting of March 24 and subsequent discussions we propose the following modifications to our proposal dated March 11, 1971.

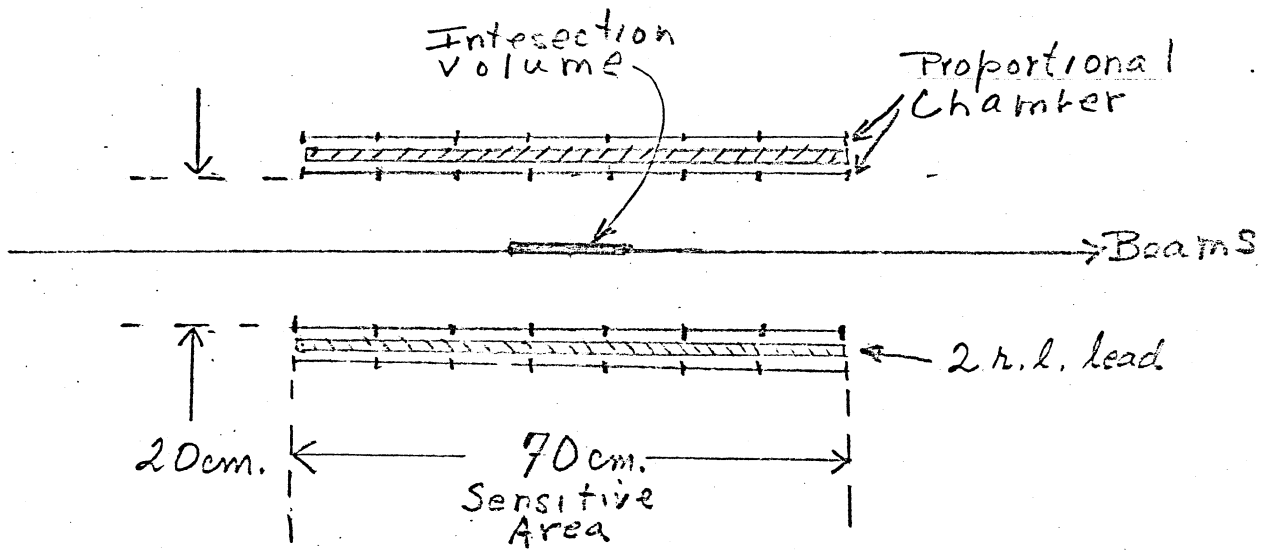
We would place detectors (70 cm x 70 cm) both above and below the interaction volume (see attached figures) and as close to it as possible. Assuming a 20 cm separation is possible this arrangement would subtend about 60% of the entire solid angle. The objection that our previous arrangement subtended a solid angle so small as to endanger the possibility of distinguishing gamma ray multiplicities due to π^0 mesons from those due to monopoles is now largely overcome.

Doubling the number of detecting units will not markedly increase the cost or the complexity of the experiment because we propose to keep the number of electronic sensing units the same (700) by connecting two wires to each sensing unit. Only if the gamma ray multiplicity approaches of the number of sensing units will this reduction in spatial resolution cause an appreciable error. If on the other hand, the multiplicities are that high, one will not be misled by small errors in counting. Since the major cost and source of complexity lies in the electronic sensing units we

will be able to double our original solid angle without abandoning the original concepts of making this experiment a relatively simple and inexpensive one appropriate for a preliminary search for monopoles which could be introduced early into the present experimental program.

The main problem of course is finding a time and intersection where this preliminary search could be carried out. We have discussed the plans for intersection 1 with Drs. Cool and Zavattini. There is not enough space between the two Lederman-Cool detectors to introduce our proportional chambers and it appears unlikely also that we could be accommodated while the Saclay group is running.

Since we would be ready with a tested and easily mounted apparatus we propose that between the Lederman - Cool and the Saclay runs we be granted 200 hours of running time. This will cover our needs for both final testing and carrying out a preliminary search for high multiplicity gamma rays. Any other intersection which might be free to accommodate our detecting units would of course be satisfactory.



Elevation View

