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REVISED PROPOSAL TO THE ISR

SEARCH FOR HIGH ENERGY MULTIGAMMA EVENTS;POSSIBLE CONSEQUENCE OF MAGNETIC MONOPOLE PAIRS OR OF HIGH Z LEPTONS

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The possibility of sharing the equipment of the CCR group has been discussed by us with members of the CCR group (Cool, Di Lella, Zavattini) and it has been found that it is feasible to have a preliminary but significant look for multigamma events by adding a different triggering system which does not disturb the CCR experiment. The CCR group has kindly agreed to share the use of their equipment under these conditions. The objective of our experiment is to look for multigamma events giving indication for the existence of monopoles-pairs or high Z leptons.

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Our trigger will consist in requiring that a number $n_0 \geq 4$ for example of the HV lead glass counters are activated by gamma rays of an energy as low as possible.

This involves the simple addition of 36 "linear fan out" after the amplifiers connected to the HV photomultipliers but before the discriminators of the CCR group. These fan outs will have three outputs, one for the CCR discriminator, one for our logic unit (see below) and a third for possible future utilization by the CCR group.

The 36 outputs for the multigamma events experiment will be fed into a 4156 type logic unit, the outputs of which will fix the minimum number n_0 of gammas required for our experiment. While the CCR discriminators will be set at about $E_\gamma = 1$ GeV, we will have discriminators connected to our fan out outputs set at the lowest possible energy.

This minimum energy will be determined by two conditions : one is the possibility of distinguishing gammas from background. The other will be imposed by the necessity of avoiding that the counting rate of our experiment is so high to reduce the efficiency of collection of data by the CCR group.

The output of our logic unit will be connected to the input of a "OR" circuit, already existing in the CCR group logic, so that, our events will be recorded on the same tape with a proper coding.

The CCR group has kindly agreed to supply all the information on the gamma rays energies as well as on the positions of the sparks in the chambers corresponding to our events.

Since the CCR counters cover 20 % of the solid angle, we plan to add, in due time, simple counter arrays at small angles

downstreams the beams.

We will try to install our fan out circuits before the CCR group starts to calibrate its counters in order to avoid the need of unnecessary readjustments of the CCR group circuits.

An early approval of this run schema by the ISRC would allow the preparation and installment by our group of the equipment mentioned above in time for utilizing the first runs of the CCR groups. These would provide information on the multigamma events which will be very interesting in themselves as well as for the implementation of the apparatus.

As one can recognize from what has been described above, the requirements in power, installation and other services will be very modest.

This additional information has been read and approved by members of the CCR group (Cool, Di Lella, Zavattini)

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