

THE OMEGA PHYSICS PROGRAMME AND THE PS

Attached is page 4 (Chapter 7) of a memorandum on the Omega Physics Programme (PH.I/COM-71/9 to the EEC from the Omega Rapporteur).

I would like your comments, especially on point 2. P. Sonderegger tells me that he got a reply on that point, that sounded optimistic from G. Plass at the open EEC meeting. The contents of PS/Coord./Memo 1021 on "future possibilities for beam sharing between Experimental Areas" are known to the rapporteur.

The primary beam questions are being looked at by L. Hoffmann and M. Reinharz. We now have a formal request for two improved ten metre separators and for the present I assume, as the EEC wishes, that they are additional to those now used.

It is still assumed that the Omega will start up in June 1972.

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to be formed by the Ω staff and by representatives of the groups which have approved (or proposed) experiments for Omega.

7. Beam Requirements

We summarize here our requests for the Slow Ejection to the West Area, as foreseen now :

1. A ≥ 400 msec spill-out beam every alternate PS period, on a sharing basis with the South Hall. The amount of protons to be ejected towards the Omega target may vary between a few 10^{10} and 10^{12} protons/burst.

2. A ~ 40 msec spill-out, parasitic beam during the other PS periods is very strongly requested. It may be used only part of the time, but should be permanently available.

3. A very good emittance of the Slow Ejection is crucial for several Omega experiments which need secondary beams of a diameter not exceeding 1 cm at the image.

4. A simple test beam, to be derived from the Omega target station will be valuable for many experiments.

Three secondary beams are requested, and are quoted in the second last column of Table 1, for each experiment : HE, a High Energy unseparated beam, 1-15 GeV/c, 60 m long; ES Long, a Long Electrostatically Separated beam, 2-5 GeV/c, 60 m long, 20 m of separators; and ES Short, a Short Electrostatically Separated beam, 1-2 GeV/c, 36 m long, with a 10 m separator. These beams are described in "Possible Beams for Omega (1972-1975)", Int. Report NP 70-29, as Beams No 4,3,2, respectively. The HE and ES Long beams use the same target station; another target station has to be built for ES Short. Later on (not before 1974) an RF separated beam (Beam No. 6, *ibid.*) will possibly be installed, which will be valuable to many of the proposed experiments.