

AA Long Term Note 2

Summary of the meeting of February 9, 1982

Present : B. Autin, V. Chohan, L. Evans, W. Hardt, L. Henny, C. Johnson,
E. Jones, H. Koziol, C. Metzger, D. Möhl, P. Pearce, L. Riolfi,
J.-P. Riinaud, C. Rubbia, J.C. Schnuriger, R. Sherwood, P. Sievers,
A. Sullivan, C. Taylor, H.H. Umstätter, S. van der Meer,
E.J.N. Wilson

Absent : R. Billinge, G. Carron, S. Milner, F. Pedersen, B. Szeless, L. Thorndahl

The LT note 1 was discussed. The present feeling is that, within rather large limits, we could collect as large a number of antiprotons as we wish with the appropriate effort on a new machine; in contrast, more fundamental difficulties are expected in the processes of cooling and accumulation. In order to clarify the complex problem of a cooling system optimization, S. van der Meer will explain the limitations of the present AA ring at the meeting of March 9.

D. Möhl mentioned that the ICE magnets could be re-distributed in a lattice similar to LEAR's with an imaginary γ -transition. The acceptances would be 200π mm-mrad and 4% in momentum. An intensive study is under way for the implementation of a cryogenic system which shall cool the input resistors of the stack tail cooling equipment. Preliminary experiments on Ga As FET amplifiers at liquid nitrogen temperature are very encouraging. In this context, copies of the preprint: "Ultra Low Noise 1.2 - 1.7 GHz cooled Ga As FET amplifiers" by S. Weinreb et al. are available. E. Jones described the properties of a focussing target. A note written by him and R. Sherwood will be issued soon. The target is made of a copper rod of 13.5 cm length and 2 mm diameter. A pulsed current of 200 kA flows inside the skin of the target and acts like a magnetic mirror which forces the antiprotons emitted at the upstream end to re-enter the target. The phase space density is thus

increased and the emittance is contained in a half-moon well suited to particle collection by a linear horn focussed on the downstream end of the target. A factor of 3 over the present yield may be obtained if the target can be properly constrained to resist the tremendous electromagnetic forces which tend to make it to explode.

Next Meeting:

Tuesday, February 23, 1982 at 14.00h
in the Large PS Conference Room

A g e n d a :

1. Particle production (C. Rubbia).
2. Sketching a laboratory experiment with a focussing target (J.C. Schnuriger).

B. Autin

Distribution:

Working group + for information: PS Group Leaders
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