

MEMORANDUM

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To/A : B. Wiik, Chairman of the SPSC

I. Mannelli

From/De : F. Brasse, Coordinator of NA2/NA9

E. Gabathuler

Subject/: Polarised Target and Running in Period 3.
Objet

This is to inform you, that our polarised target program cannot be carried out in period P3. Difficulties in the final assembly of the large target will not allow us to have it operational for the foreseen period of running.

The work on the target to get it assembled, to have it polarised and to get it into a stable and optimised operational status is being carried on. Preparations are being made to include the program of measurements with the polarised target into the program with our vertex system after the long shutdown.

For the period 3 the situation on our experiments has been discussed, and the NA2 Collaboration wants to carry out the following program:

- 1) Continuation of measurements with H_2 for 20 days at 200 GeV with the photon detector, using μ^+ and μ^- , to reach within a factor of 2 the statistics for the asymmetry on single photons, we have been aiming for (status report on 15.1.80). The intensity should be $1.5 \times 10^7 \mu^+$ per burst as before.
- 2) Various test measurements for information which is needed for the analysis of present data and for future running after the shutdown. Total time needed for those tests, which cannot be done in parallel to normal data taking, is approximately 5 days
- 3) Measurements of hadron production on short targets of carbon and copper. This is to determine in a first attempt with a minimum of

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running time an A-dependence of the production of hadrons as a function of ν and z for values of Q^2 larger than 5 GeV^2 . Information on the formation length, the time the quark needs to dress itself to hadrons, and on quark nucleon scattering can be obtained from these data. Measurements at low energies had been performed at SLAC but the higher energies of the SPS muon beam are necessary for this experiment. We estimate that we need 20 days of running at 200 GeV with $1.5 \times 10^7 \mu$ per burst to have sufficient statistics in the higher ν and z regions. On the basis of results from these measurements and their interpretations it could be decided on the question of a full and longer program to be carried out at a later time.