Memorandum

To: The Members of the Nuclear Physics Research Committee.

From: P. Preiswerk

Conc.: Decisions taken at the Meeting of the Electronic Experiments Committee of 5th December, 1962.

In this memorandum a summary is given of the decisions taken at the meeting of the EEC of 5th December, 1962.

Present: P. Preiswerk Chairman
         J.N. Cassels
         G. von Dardel
         B.D. Hyams
         U. Stierlin
         E. Zavattini
         D. Harting Secretary

A. The Programme for Counter Experiments at the PS

I - Period III, 1962

The decisions are based on the assumption that the remainder of Period III, 1962 covers the period 5th December, 1962 - 1st February, 1963.

Since the EEC Meeting of 11th November, 1962 (see memo 5142/p of 11th November, 1962) the following new developments took place.

1) \( S_5 \) (Backenstoss. Pion form factor)

   Due to the complexity of the apparatus for both the experiments \( S_1 \) and \( S_5 \), it seems unrealistic to consider \( S_5 \) as a stand-by of \( S_1 \) in the d-beam. \( S_5 \) will therefore definitely get no running time in Period III, 1962.

2) \( S_6 \) (Fidesaro. \( 2^o \) polarization)

   The EEC discussed this experiment again in the light of the facts that only two weeks of PS machine time will be
available in the q-beam in January and that according to a new memorandum of Fidecaro (5333/p of 29th November, 1962) a fairly considerable amount of new apparatus has to be built for the new run on the $\Sigma^0$ polarization.

**Decision**: It is recommended that no machine time will be allocated to this experiment after Period III, 1962 and that no exceptional priority in the workshops will be allowed in Period III for the construction of new apparatus.

3) $S_{11}$ (Conversi, $\bar{p} - p \rightarrow$ electron pair)

A detailed report on this experiment has been received (5340/p of 30th November, 1962). As a result of further study it now seems possible to run beam $m_2$ in parallel with the $\pi^-$ version of beam $d_{13}$. Due to delay in the Track Chamber programme it is now also clear that no bubble chamber is in a position to use the $m_2$ beam in January, 1963. The time that is thus available in the $m_2$ beam can be used for a test of the experiment $S_{11}$.

**Decision**: To recommend that the preliminary run requested by the group is made in the machine time that is available in the $m_2$ beam in January, 1963. It is also recommended that the group makes a still more detailed study of the background due to the $2\pi^0$ production channel.

4) $S_{20}$ (Lundby. Strange particle physics)

For technical reasons it is not possible to give this group a reasonable amount of running time in January, 1963. It is therefore more economical to leave the Wilson Chamber in beam $a_2$ during this period.

**Decision**: It is recommended that machine time is allocated to this experiment as soon as possible after the neutrino shut-down starting around 1st February, 1963.

5) $S_{22}$ (DA$\beta$group. $\Sigma^-$ decay)

The group, before submitting a final proposal, asks for machine time in q-beam to test the $\Sigma^-$ triggering system.

**Decision**: It is recommended that machine time is allocated to this group in Period III in the q-beam to test the $\Sigma^-$ triggering system. A decision on the experiment will be taken after the result of the test is known.
The recommendations of the EEC and the status of P3 counter experiments on 5th December, 1962, are listed in Table I.

The neutrino spark chamber experiment has been given the new symbol S21 (old symbol N3,5).

The Σ⁻ decay proposal has been given the symbol S22.

II - Period I, 1963

Except for the cases discussed under Period III, 1962, there are no modifications to the decisions listed on page 2 of the memorandum 5142/p of 11th November, 1962.

Discussion on new experiments

\( g-2 \) proposal (Farley)

The EEC recommends that the NPRC takes a decision soon whether CERN is prepared to start in principle a project of this magnitude for the measurement of the \( g-2 \) of the muon.

\( K^- \) and \( p^- \) interactions (Cloud chamber group)

A detailed proposal has been submitted. Decisions on this experiment will be taken at the next EEC meeting.

B. The Programme for Counter Experiments at the SC.

There are the following developments.

1) AEC proposal (Conforto et al.)

A final proposal has now been received.

Decision: It is recommended that this experiment is accepted for the SC programme.
2) \(0^{16}\) proposal (Sena)

The group asked for testing time on the SC in January. Some people involved in these tests are also involved in the \(\Sigma^{-}\) decay experiment (S\(_{22}\)).

**Decision**: It is recommended that, if tests on the \(\Sigma^{-}\)-triggering system are done in January, no SC machine time is given to the \(0^{16}\) experiment before February and that then a new decision will be taken. If the \(\Sigma^{-}\)-experiment does not get machine time on the PS in Period III, 1962, testing time at the SC can be allocated to the \(0^{16}\) experiment in January 1963.
Table I  PS Counter Experiments in the remainder of Period III
(5 December, 1962 - 1 February 1963)

<table>
<thead>
<tr>
<th>Beam</th>
<th>Symbol</th>
<th>Name</th>
<th>Title</th>
<th>Recommended priority and Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>c_5</td>
<td>S_{19}</td>
<td>Taylor</td>
<td>Small angle p-p scattering</td>
<td>Test of sonic spark chambers.</td>
</tr>
<tr>
<td>d_{13}</td>
<td>S_{1}</td>
<td>Harting</td>
<td>(\pi)-p scattering (70° - 50° c.m.)</td>
<td>Apparatus being set up.</td>
</tr>
<tr>
<td></td>
<td>S_{5}</td>
<td>Backenstoss</td>
<td>Pion form factor</td>
<td>Not in Period III, 1962.</td>
</tr>
<tr>
<td></td>
<td>S_{18}</td>
<td>Weber</td>
<td>(\pi)-p backward scattering</td>
<td>Tests in Period III as parasite, if technically possible</td>
</tr>
<tr>
<td>q_1</td>
<td>S_{6}</td>
<td>Fidecaro</td>
<td>(\Sigma^0) polarization</td>
<td>New apparatus being built. Experiment should finish in this period.</td>
</tr>
<tr>
<td></td>
<td>S_{22}</td>
<td></td>
<td>(\Sigma - \Lambda - \beta) group (\Sigma^-) decay</td>
<td>Test of (\Sigma^-) triggering system in Period III</td>
</tr>
<tr>
<td>m_2</td>
<td>S_{21}</td>
<td>Faissner</td>
<td>Neutrino spark chamber calibration</td>
<td>Calibration for neutrino experiment only.</td>
</tr>
<tr>
<td></td>
<td>S_{11}</td>
<td>Conversi</td>
<td>p (\bar{p}) \rightarrow electron pair</td>
<td>Beam studies and preliminary run in January 1963.</td>
</tr>
<tr>
<td>a_2</td>
<td>S_{20}</td>
<td>Lundby</td>
<td>Strange particle physics</td>
<td>Not in Period III, 1962.</td>
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</tbody>
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