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M E M O R A N D U M

To : Members of the EEC  
From : Experiment S137 (Saclay) Contactman Y. Ducros  
Subject: Request for additional machine time

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During the first period in 1976 we have completed setting up and tuning (see Memo CERN/EEC-76/10). Period II was used to collect data which are presently being analysed at Saclay. In the first part of period III we have modified the beam geometry and introduced additional defining counters in the recoil arms, resulting in improved trigger efficiency and reduced empty target effect.

It appears that the maximum beam rate for the apparatus is about  $5 \times 10^6$  particles/sec. The calculated interaction rate is one  $K^+n \rightarrow K^0p$  per  $10^7$  beam particles. The vertical dimension of the beam spot is  $\sim 1.5$  times larger than the diameter of the polarized target. With these figures, and owing to the uncertainty with regard to effective operation time of SE62, we must anticipate that the measurements at 6 GeV/c will not be completed by the end of the next period.

Concerning continuity and reliable planning of SE62 operation, we have obtained data of much improved quality during the ISR shut-down from 8-15 April. Identical beam conditions during runs with opposite signs of target polarization and with a dummy target are in fact essential to minimize the systematic errors.

We are interested in exploring the possibility to measure the same parameter at 12 GeV/c in the present set-up. This mainly depends on the characteristics of the beam. The expected Kaon rate per incident proton on the production target is almost the same as at 6 GeV/c, but the rate of secondary protons will be much higher. We propose to use a fraction of the allocated time to investigate operating conditions of beam and apparatus at 12 GeV/c.

For the reasons stated above, we therefore request the allocation of the periods V and VI to experiment S137, assuming that the ISR are shut down during period VI.