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M E M O R A N D U M

To: The Chairman of the PSCC
From: Birmingham-Rutherford Laboratory-Surrey Collaboration
Subject: Request for machine time for experiment PS165

In the original proposal (PSC/78-11/P2) for the above experiment the team requested 2 PS periods of beam time for setting and 2 periods for data taking. The PSCC recommended an initial allocation of two periods in the latter half of 1979 for a feasibility study. We would now like to formally request a further allocation of two periods (total 10-12 weeks) in the first half of 1980 to complete the data-taking with kaons.

The experiment shares the K23 beam line in the East Hall of the PS and is mounted from a special bridge structure over the experimental area. The bridge was installed on schedule in June and the target and associated control system in September. The beam line has been optimised for 600 MeV/c kaons and fluxes of 6,000 K^- /pulse in flight have been obtained using a 25 mm production target. This figure agrees with theoretical calculations of the beam line performance. The target has been filled with liquid He to allow the electronics system to be set up using kaonic-He X-rays which have energies similar to those expected from hydrogen. Tests with liquid helium to check the performance of the X-ray detector and associated electronics are almost complete and preparations are under way to fill the target with liquid hydrogen. The initial phase of data taking should commence soon after the target has been filled with hydrogen. Setting up of the γ -ray detector to look for the radiative capture of kaons is almost complete.

It is intended that the team will present a status report on the experiment at the January meeting of the PSCC.

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