

Planning and CoordinationMACHINE TIME EXECUTIONREPORT (2003-3 CYCLE)

Experimental Group	T539	Reporter	A. Sakaguchi
Scheduled Period and Shift	2003/06/28~2003/07/03 3 shifts	Main, Sub, Para	Para
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<p>SUMMARY OF EXECUTION AND RESULTS</p> <p>In this beam time, we tested prototype detectors for beam profile measurements in secondary hadron beam lines. Prototype detectors we tested were as follows:</p> <ol style="list-style-type: none"> 1. Segmented Parallel plate Ionization Chamber (SPIC) with updated readout electronics 2. 1mm diameter glass fiber profile detector based on Cerenkov radiation in the fiber 3. 1mm diameter plastic scintillation fiber detector <p>These prototype detectors were mounted close to the Intermediate Focus (IF) position in the PS/K6 secondary beam line. The test measurement was executed as a parasite experiment of the E521 experiment in the K6 beam line, and typical beam intensities at the K6 secondary target and IF were 4M particle/spill and a few 10M particle/spill, respectively.</p> <p>We observed a clear image of the vertical acceptance slit of the K6 beam line by the SPIC detector. Estimated beam intensity was about 2M particle/spill for each readout strip (about 2.5mm width). This was the first time that profile of beam in such low intensity secondary beam was measured clearly with a position sensitive ionization chamber.</p> <p>Stable operation of the fiber detectors (glass and scintillation fibers) was possible in the secondary beam line. We noticed additional shielding of PMT was necessary to avoid background from stray radiations in the secondary beam line for the glass fiber profile detector. A stable operation of the plastic scintillation detector was confirmed up to about 5M particle/spill/fiber.</p>			
<p>EXECUTED MACHINE TIME, BEAM CONDITION, DOWN TIME etc.</p> <p>During our shifts, there was about one day down time by an accelerator trouble. Other than the accelerator trouble, the beam at K6 line was quite stable.</p>			
COMMENTS			