To Office of Experimental Planning and Coordination

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MACHINE TIME EXECUTION

REPORT (2003-3 CYCLE)

Experimental Group	T540	Reporter	T.Yoshida
Scheduled Period and Shift	July 2 ~ July 9 17 shifts	Main, Sub, Para	Para
Experimenters	T.Yoshida, Y.Shikaze, T.Hams, M.Sasaki, K.Abe, S.Matsuda Y.Takasugi, A.Itazaki, K.Takeuchi, K.Matsumoto, T.Kumazawa		

SUMMARY OF EXECUTION AND RESULTS

Detector components of the BESS-Polar Superconducting Spectrometer were tested.

1. A timing resolution of a scintillation counter hodoscope, called M-TOF, was tested. A M-TOF consists of eight 1×0.5 cm^2 $\times$ 1 m scintillator pads, optical fiber light guide and a 8-anode PMT. A timing resolution below 300 ps for each pad was obtained for 0.5 GeV/c protons, which is better than the designed value. For MIP events, a timing resolution below 600 ps was achieved.

2. A performance of a Time-of-Flight scintillator pad was tested. Since the thickness of the pad is reduced to 1 cm in order to reduce the material along the incident particle in the BESS-Polar experiment, timing resolution of the counter is expected to be worse compared to the conventional BESS ToF counter. Timing resolution of 85 ps was obtained for MIP, which is consistent with the designed value.

3. A performance of a silica aerogel Cherenkov counter was also checked. Analysis is now in progress, but we 1.2 million events were accumulated for -2.0 GeV/c, and 0.6 million for +2.0 GeV/c.

EXECUTED MACHINE TIME, BEAM CONDITION, DOWN TIME etc.

During the allocated beam time, we had no machine trouble and had very stable beam.

COMMENTS