

7/11 木村

To Office of Experimental

Date : 2003/07/09

Planning and Coordination

MACHINE TIME EXECUTION

REPORT (2003-3 CYCLE)

Experimental Group	T541	Reporter	H. Watanabe
Scheduled Period and Shift	2003/07/02~2003/07/09 17 shifts	Main, Sub, Para	Para

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**SUMMARY OF EXECUTION AND RESULTS**

In this beam time, our main purpose is to test the collar-veto calorimeter, called CC02, for the KEK-PS E391a experiment. The CC02 was exposed to positrons, charged pions and protons with momenta of 0.5, 0.7, 1.0, 2.0, 3.0 and 4.0 GeV/c. We obtained enough data set under various kinds of conditions for the all CC02 modules.

The measurement items are as follows:

1. Light yield.
2. Energy Resolution.
3. Incident position dependences of the light yield and energy resolution.

For the light yield, absolute calibration of PMT's will be started soon after beam time, and we will see the result soon.

The energy resolution is obtained to be ~8 % for 1-GeV/c positron by simple online analysis. However, this is worse value compared with the expectation, and this is major point in the offline analysis.

Before these test, NaBi(WO4)2 Cerenkov crystals as an electro-magnetic calorimeter was tested. In the previous beam time (T528), a light yield of the NaBi was measured. The main concerning point in this test is to know the energy and position resolutions. To obtain these values, the NaBi was exposed to positions with momenta of 0.5, 0.7, 1.0, 2.0, 3.0 and 4.0 GeV/c. The energy resolution is obtained to be ~7.3 % at 2 GeV/c. Also, to understand its responses in the hadronic interactions, the NaBi was exposed to protons and pions.

**EXECUTED MACHINE TIME, BEAM CONDITION, DOWN TIME etc.**

During our 17shifts(+2shifts for setups), there is no accelerator trouble and no down time , and the beam in the Pi2 beam line was quite stable.

Prof. Aoki of the Kobe Univ. used for 2 hours during our beam time to check the feasibility of his next test-beam experiment.

**COMMENTS**