

J-PARC Hadron Hall : EXPERIMENTAL REPORT on RUN#

		Date(submitted)	2018/3/2
Group	E40	Beam line	K1.8
Reporter	Name Koji Miwa	e-mail address miwa9@lambda.phys.tohoku.ac.jp	
Experimenters	Tohoku Univ. : K. Miwa, R. Honda, S. Ozawa, N. Fujioka, M. Fujita, H. Kanauchi, Y. Ishikawa, H. Tamura Osaka Univ. : Y. Nakada, S. Hayakawa, S. Hoshino, T. Akaishi Kyoto Univ. : H. Ekawa, S. Ashikaga, M. Ichikawa KEK : T. Takahashi, M. Ukai, T. Yamamoto JAEA: Y. Ichikawa, K. Tanida Korea Univ: S.H. Kim		
<p>Summary and Results</p> <p>This beam time was the commissioning run for E40 after installing the all detectors to the K1.8 beam line. We divided beam time to two parts. The purpose of the first half beam time in January was to launch the spectrometer system. The second half was used to check experimental condition with CATCH system, which is the main detector to detect Sigma p scattering events.</p> <p>(1) We made a timing adjustment of the trigger circuit. Data to determine the optimal operation points of detectors such as drift chambers and aerogel Cherenkov detector were taken. We accumulated the (pi-, K+) events to detect K+ event. This was used to determine the trigger condition of matrix trigger and mass trigger for the 2nd beam time.</p> <p>(2) In the 2nd beam time, we installed the CATCH system and check the trigger timing including the CATCH system. Then we accumulated the (pi-, K+) events with a rather tight trigger condition determined by the results of 1st run and simulation. We took data of the (pi-, K+) data with different beam intensity of 2M, 10M, 15M, 20M/spill to check detector performance and trigger rate. Finally we took (p, p) scattering data for energy calibration of CATCH system using 0.5 GeV/c proton beam.</p>			
<p>SCHEDULED and EXECUTED MACHINE TIME, BEAM CONDITION, DOWN TIME, Priority etc.</p> <p>1st half beam time (-1.32 GeV/c pi- beam, 2 M/spill)</p> <p>Jan. 17th : 9:00 – 21:00 (Down time 5 hours)</p> <p>Jan. 19 th 1:00 – 15:00 (Down time 2 hours)</p> <p>2nd half beam time (-1.32 GeV/c pi- beam, 2, 10, 15, 20 M/spill, +0.5 GeV/c p beam 600 k/spill)</p> <p>Feb. 22th : 12:00 – 23:30 (Down time 1 hour)</p> <p>Feb. 23 th : 5:30 – Feb. 24th 2:00 (+ 2hors accelerator study) (Down time 0.5 hour)</p>			
<p>Comments/Requests</p> <p>Beam structure was quite bad in this beam time. We hope that it should be improved more.</p>			