

J-PARC Hadron Hall : EXPERIMENTAL REPORT on RUN#26

Group	K1.8 (SKS)	Date (Submitted)	Nov.18, 2009
Reporter	Name	e-mail address	
	T.Takahashi	toshiyuki.takahashi@kek.jp	
Experimenters	Tohoku U. K.Miwa, T.Koike, K.Shirotori, T.Yamamoto, M.Sato, K.Yagi, R.Honda, Y.Yonemoto, K.Hosomi KEK T.Takahashi, M.Naruki, Y.Igarashi, R.Kiuchi U.Tokyo T.N.Takahashi, S.Masumoto Kyoto U. A.O.Tokiyasu, M.Moritsu, H.Sugimura, S.Adachi, Y.Ichikawa Nara W.U. R.Iwasaki Osaka U. K.Yoshida, N.Ishibashi (Total 23 persons)		
Summary and Results			
* +1.1 GeV/c unseparated beam Beam trigger timing check pi, K, p triggers and scalers D3/D4 scan. Trigger counters (BGC, BH1, BH2, BAC and others) check Confirmation pi/p by Time of Flight between BH1 and BH2			
* +1.8 GeV/c separated beam (ESS#1 = +/-150kV) D3/D4 scan. CM scan Beamline MWPC(BC1,BC2) check Data-taking with K-trigger at the CM best value (Trial)			
SCHEDULED and EXECUTED MACHINE TIME, BEAM CONDITION, DOWN TIME, Priority etc.			
Oct.22 22:00 – Oct.23 1:00 +1.1GeV/c Beam Oct.23 4:00 – Oct.23 7:00 +1.8GeV/c w/ ESS#1 Beam			
<u>Comments/Requests</u>			

Results of Beamtime on Oct.22

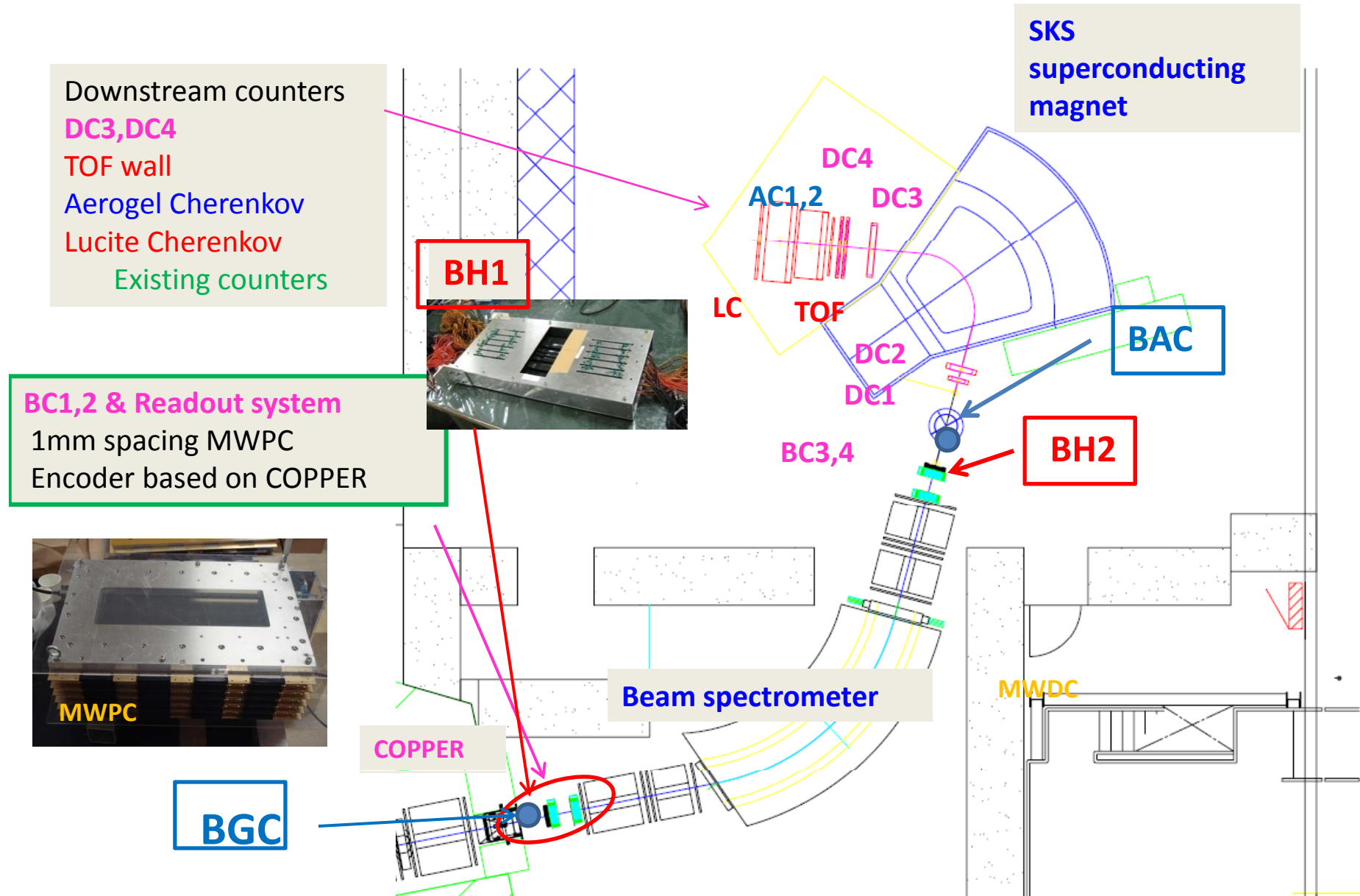
K1.8 Exp. Group

T.Takahashi

What we did ?

- +1.1 GeV/c w/o E.S.S (3hrs.)
 - Timing tuning of BH1/BH2/BGC/BAC
 - D3/D4 Scan
 - Time of Flight between BH1 and BH2 by DAQ
- +1.8 GeV/c w/ E.S.S#1= ± 150 kV (3hrs.)
 - D3/D4 Scan
 - Beam profile by MWPC at BS upstream
 - CM Scan

K1.8 Beam Spectrometer & SKS

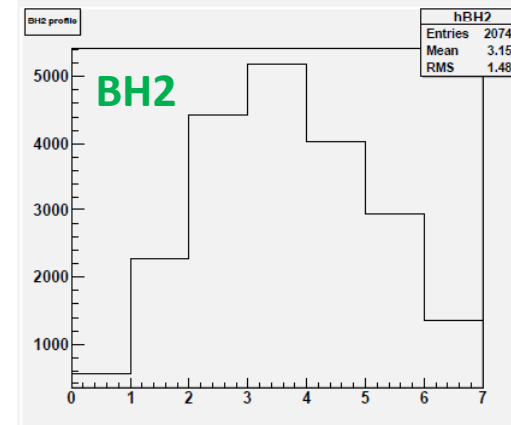
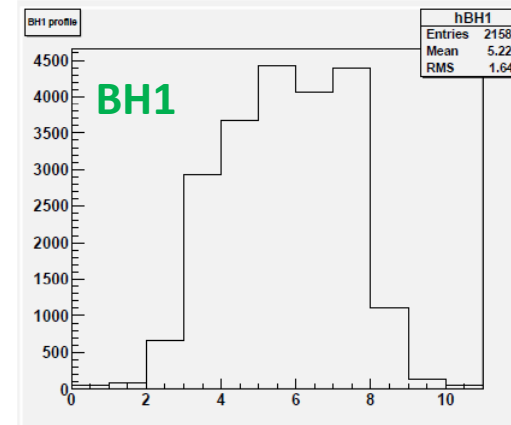
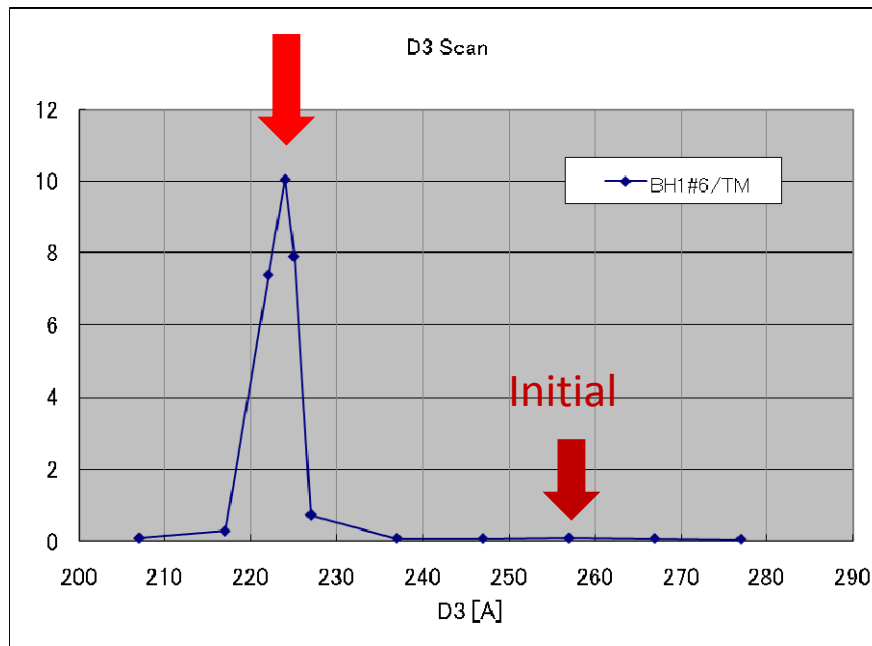


+1.1GeV/c beam

Scaled current setting from 1.8GeV/c calculation values.

IFH	-30.0	+30.0
IFV	-13.0	+12.0
Mom	60.1	60.0
Mass1	10.0	-10.0
Mass2	10.06	-9.99

D4=3710A



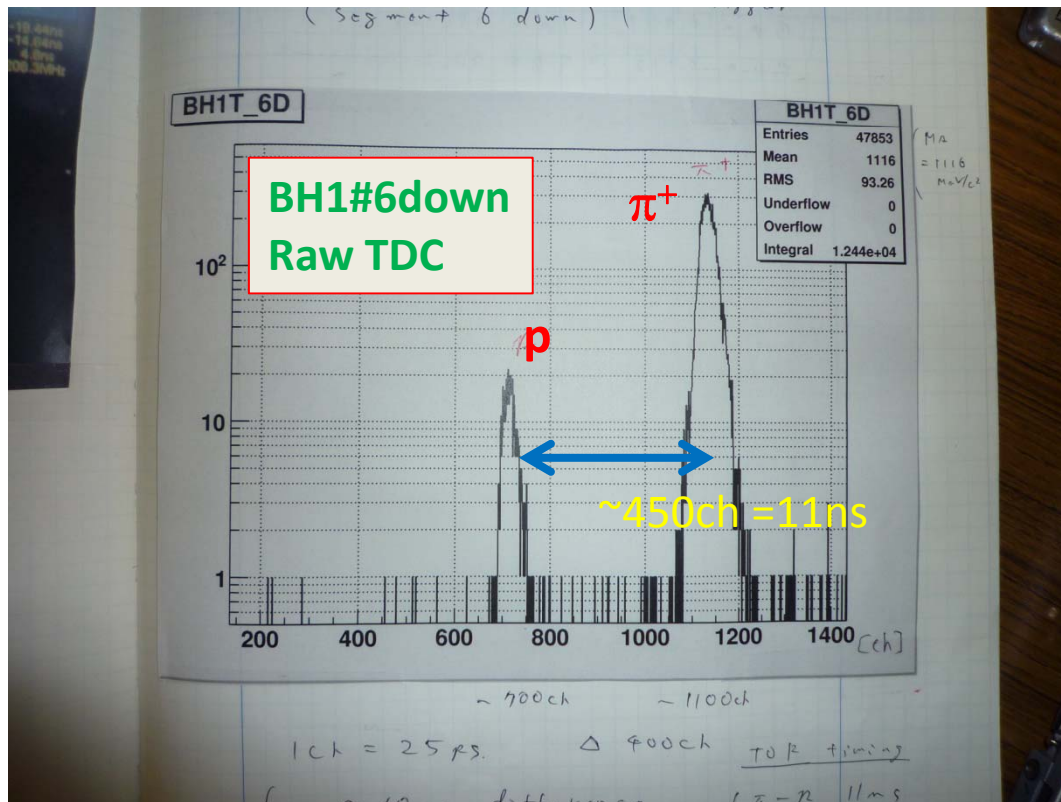
Time of Flight between BH1 and BH2

BH2 Common Start

TOF difference at 1.1GeV/c

pi-p 11ns

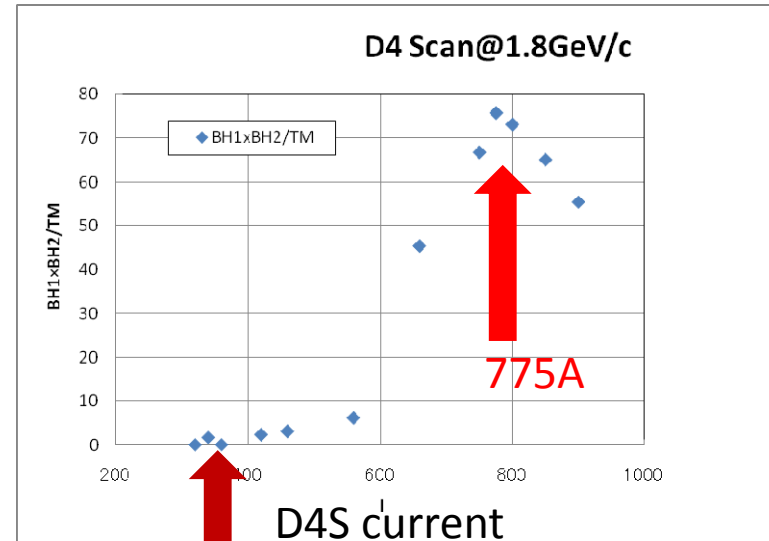
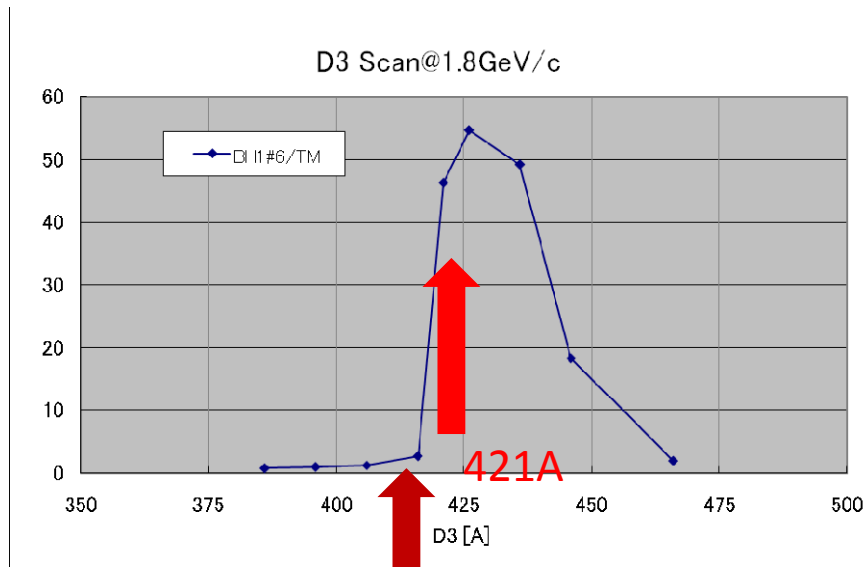
pi-K 3ns



1.8GeV/c w/ E.S.S#1

D3/D4 Scan

IFH	-30.0	+30.0
IFV	-13.0	+12.0
Mom	60.1	60.0
Mass1	10.0	-10.0
Mass2	10.06	-9.99

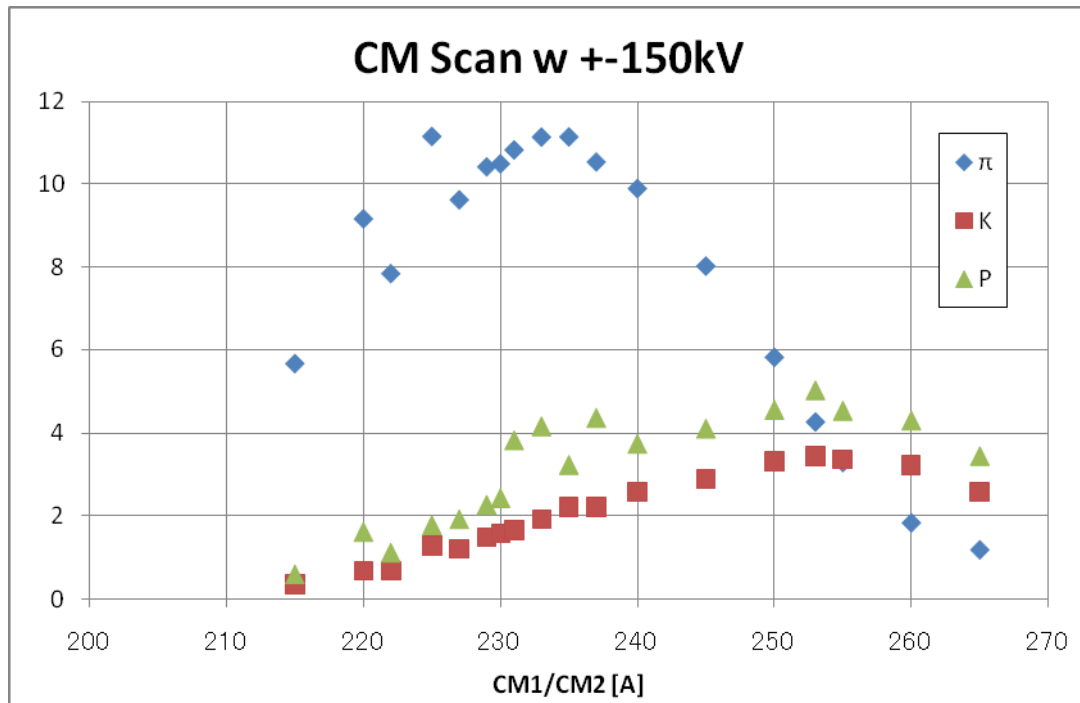


Q6 could not be fully excited due to interlock limit.
It will be resolved soon.



One of the reasons for
broad CM scan peak

CM Scan at 1.8GeV/c



IFH	-30.0	+30.0
IFV	-2.0	+2.0
Mom	60.1	60.0
Mass1	2.0	-2.0
Mass2	10.06	-9.99

$\pi = \text{BH1} \times \text{BH2}$

$K = \text{BH1} \times \text{BH2} \times \text{BAC_bar}$

$P = \text{BH1} \times \text{BH2} (\text{delayed})$

No difference between K and P.

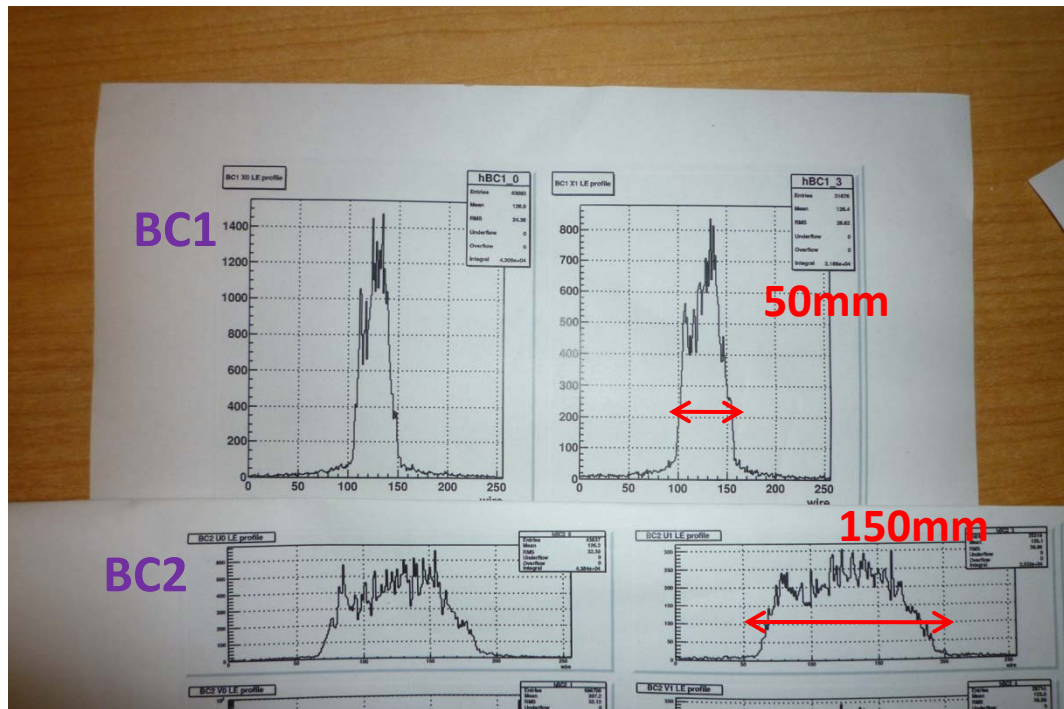
difficult to discriminate by coincidence.

K-trigger is not "true K"-trigger

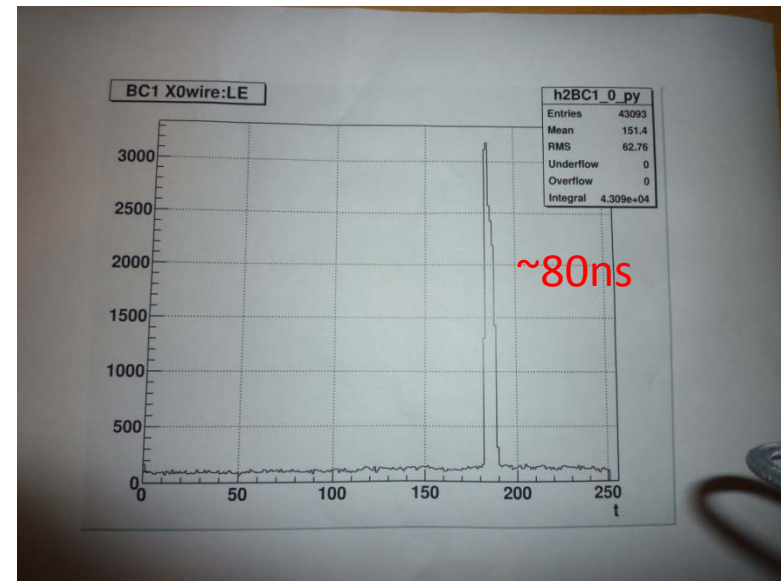
need to proton veto counter

MWPC@+2.4kV

Hit Pattern



Timing



10ns/ch

Beam Intensity (Prim.= 5×10^{10} ppp)

- +1.1 GeV/c w/o E.S.S. Slit Full Open
 - 100k/spill BH1 singles
 - 9k/spill BH1xBH2(pi)
- +1.8 GeV/c w/ E.S.S. Slit Full Open
 - 200k/spill BH1 singles
 - 150k/spill BH1xBH2
- +1.8 GeV/c w/ E.S.S. IFV, Mass1 ± 2 mm
 - ~ 20 k/spill pi+

21 participants



5 staffs
1 post-doc
15 students

Tohoku U.
KEK
U. Tokyo
Kyoto U.
Nara W.U
Osaka U.