
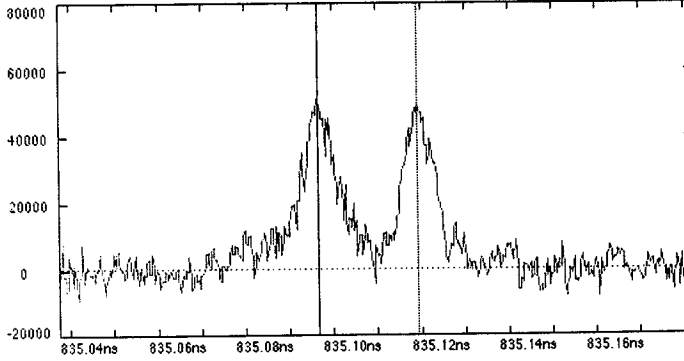


SB_C~4 +1.5° ΔE/E optimized

Untitled



Mark 1 = 835.097ns 52100 cnt
 Mark 2 = 835.119ns 47056 cnt
 FWHM = 6.632ps (835.097ns)
 AREA = 1645075 cnt



Measurement Condition

Live Time: 30 pulse
 Accum.Time: 100 pulse

Control the Streak Camera

U-Sweep Range: 0.2ns
 MCP Gain: 100 %
 Delay: 733.64 ns
 Search pulse: 5000 cnt.

Input Optics

Focus:
 Slit Width: 100 um
 Gravity Integ. Trig.Single

Image Status

<< Condition: BeamC6699_21 >>
 Accum.Time 100 pulse
 Mcp Gain 100[%]
 Streak Mode 0.20[NS]
 Streak Trigger SINGLE
 H:-0.720 Y:-1.418 Z: 4.8720
 DC Calibration ON
 DATE 2006:03:10
 TIME 08:45:11
 << Comment >>
 (No Filter)

Optics_21

Gallery

Left: -0.720 mm Right
 Down: -1.418 mm Top
 Near: 4.872 mm Far

Tunnel

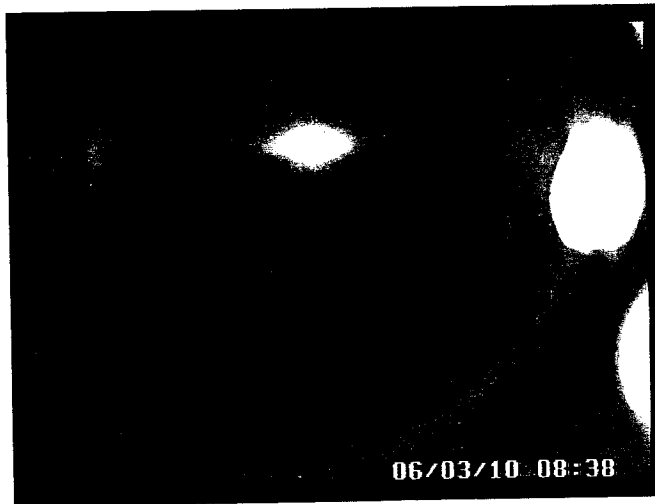
Left: -4.048 mm Right
 Down: 1.978 mm Top
 Near: 5.074 mm Far

Filter: No Filter

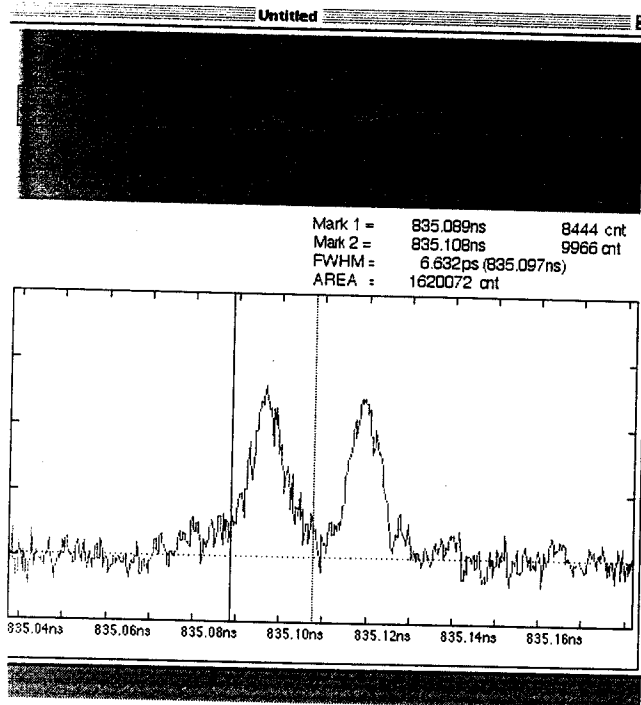
Filter... Load from... Save as...
 Quit Load Def. Save Def.

インターネットを始める
 BeamC6699_A1
 Timbuktu Sender

SC-6LA3



SB-C ~4 +1.5° ΔE/E optimized



Measurement Condition

Live Time: 30 pulse
 Accum. Time: 100 pulse

Control the Streak Camera

D-Sweep Range: 0.2ns

MCP Gain: 100 %
 Delay: 733.64 ns

Search pulse: 5000 cnt.

Input Optics

Focus: Open
 Slit Width: 100 um

Gravity Integ. Trig. Single

Table... Quit Do It

Image Status

<< Condition : BeamC6699_21 >>
 Accum. Time 100 pulse
 Mcp Gain 100[%]
 Streak Mode 0.20[NS]
 Streak Trigger SINGLE
 X: -0.720 Y: -1.418 Z: 4.8720
 DC Calibration ON
 DATE 2006:03:10
 TIME 08:45:11
 << Comment >>
 (No Filter)

Optics_21

Gallery

Left: -0.720 mm Right
 Down: -1.418 mm Top
 Near: 4.872 mm Far

Tunnel

Left: -4.048 mm Right
 Down: 1.978 mm Top
 Near: 5.074 mm Far

Filter: No Filter

Filter... Load from... Save as...
 Quit Load Def. Save Def.

インターネットを絡めよ

BeamC6699_41

Timbuktu Sander

KEBB e- ^{inc} AI Streak 2 光 観 測 機 器 の 二 次 試 験

Untitled

Mark 1 = 692.048ns 2463 cnt
 Mark 2 = 692.178ns 1448 cnt
 FWHM = 11.731ps (692.081ns)
 AREA = 8269050 cnt

Measurement Condition

Live Time pulse
 Accum.Time pulse

Control the Streak Camera
 U-Sweep Range

MCP Gain %
 Delay ns
 Search pulse : cnt.

Input Optics
 Focus :
 Slit Width : um

Gravity Integ. Trig. Single

Image Status
 << Condition : BeamC6699_R1 >>
 Accum.Time 50 pulse
 Mcp Gain 100[%]
 Streak Mode 0.20[NS]
 Streak Trigger SINGLE
 X:-0.240 Y: 0.120 Z: 7.1840
 DC Calibration ON
 DATE 2006:03:10
 TIME 09:41:28
 << Comment >>
 (Bandpass 1)

Optics_A1

Gallery
 Left mm Right
 Down mm Top
 Near mm Far

Tunnel
 Left mm Right
 Down mm Top
 Near mm Far

Filter:

 インターネットを始める
 Timbuktu Sender

3/10

Multi-Energy (Orbit) Study 大西.

A1 Gun 設定済 06-0.2nc.

1.7 GeV Optics 設定.

SCGI Hz へのエネルギー確認.

加速器の真中のスプリングの電流値を0にして軌道修正(manual)

Linac Machine Study 放射線安全チェックシート

Study項目名	Multi-Energy Linac (Orbit)		
日時	2006年3月10日		
主催者	大西幸喜		
運転モード	LINAC mode (KEKB e- beam)		
	最大繰り返し	最大パルス数	パルスあたり電荷量
	5	1	1
スタディの概要	2.5 GeV PF ビームと8 GeV KEKB電子ビームをA1電子銃からライナック終端まで転送する軌道のスタディの一環としてCセクター以降1.7 GeVのビームを使ってステアリングに対する軌道の応答を測定します。		

使用する電子銃・加速器

機器名	使用の有無	最大許容出力			
		0.02 GeV	GeV	1438	nA
A1電子銃	○	パルスあたり許容電荷 [nC/pulse] 287.60			
電子加速器 (A-Cセクター)	○	3	GeV	1250	nA
		パルスあたり許容電荷 [nC/pulse] 250.00			
C7電子銃	×	0.02	GeV	2000	nA
		パルスあたり許容電荷 [nC/pulse] 400.00			
陽電子生成ターゲット	×	5	GeV	1250	nA
		パルスあたり許容電荷 [nC/pulse] 250.00			
電子陽電子加速器 (1-5セクター)	○	10	GeV	625	nA
		パルスあたり許容電荷 [nC/pulse] 125.00			

予想されるビーム損失場所

ビーム損失箇所	使用の有無	ビーム損失設計値			
		3 GeV	GeV	50	nA
電子加速器 (A-Cセクター)	○	パルスあたり許容損失電荷 [nC/pulse] 10.00			
		3	GeV	62.5	nA
JARC Slit	○	パルスあたり許容損失電荷 [nC/pulse] 12.50			
		3	GeV	62.5	nA
ビームダンプ1 (B sector end.)	×	パルスあたり許容損失電荷 [nC/pulse] 12.50			
		5	GeV	1250	nA
電子陽電子ターゲット	×	パルスあたり許容損失電荷 [nC/pulse] 250.00			
		10	GeV	25	nA
電子陽電子加速器 (1-5セクター, 3SY,ECS)	○	パルスあたり許容損失電荷 [nC/pulse] 5.00			
		10	GeV	625	nA
ビームダンプ2 (3SY 0-deg.)	×	パルスあたり許容損失電荷 [nC/pulse] 125.00			
		10	GeV	62.5	nA
東側ビームラインダンプ	○	パルスあたり許容損失電荷 [nC/pulse] 12.50			
		4	GeV	10	nA
PFBSトッパ	×	パルスあたり許容損失電荷 [nC/pulse] 2.00			

運転に関する注意

ビーム調整時に全ロスが予想される場合は繰り返し回数を5Hz以下として下さい
beam-onの際1パンチであることを確認して下さい

11:00

ステアリングのレスポンス測定開始。(3セクター以降)

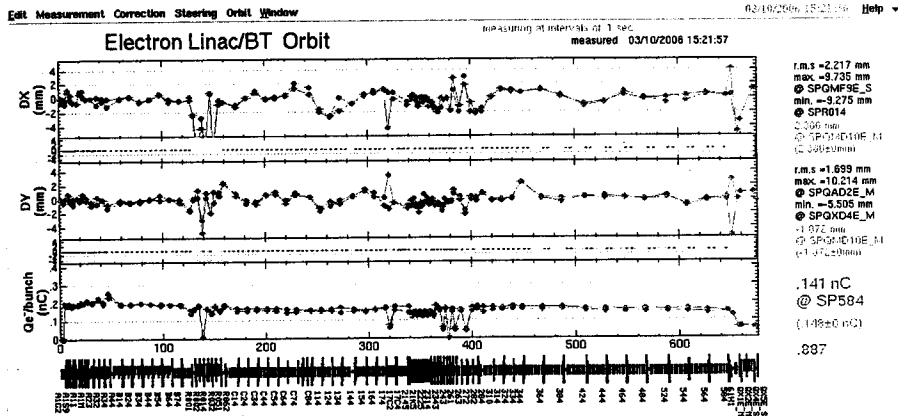
14:14

ステアリングのレスポンス測定終了。

14:20

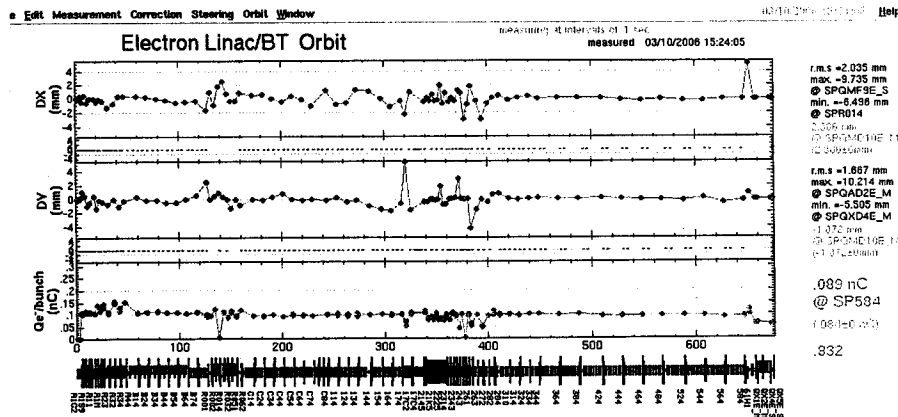
"1.7 GeV 0.2 nC" T-7 保存. (Multi-Energy Orbit 3 (1.7 GeV 0.2 nC))
data 4141. ell

2.5 GeV optics (3/7 18:25) load.



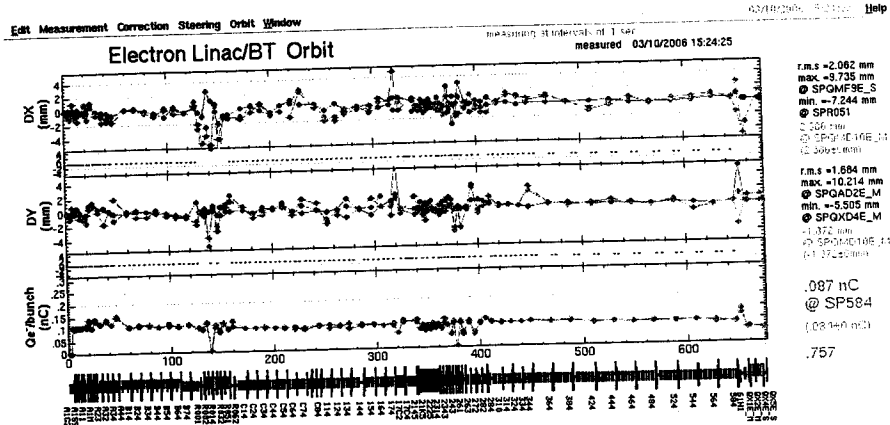
2.5 GeV

0.2 nC



0.2 nC
-
0.1 nC

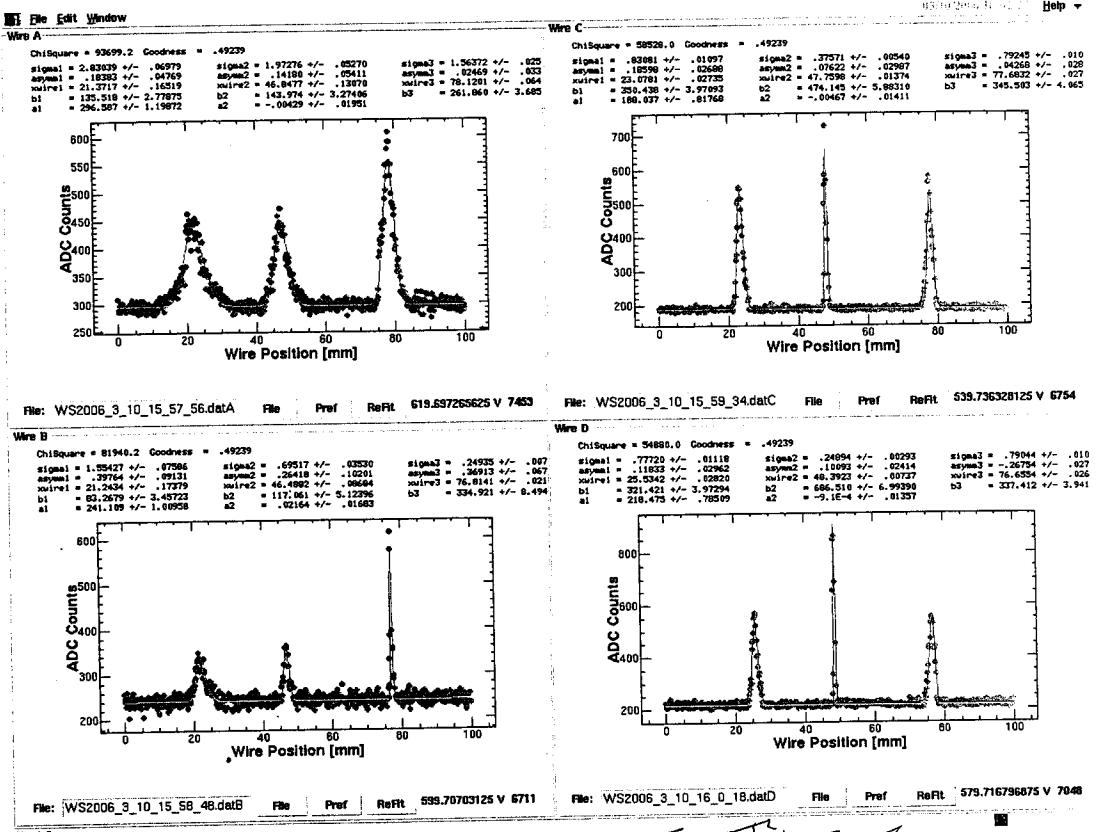
1.7 GeV
建の軌道



2.5 GeV

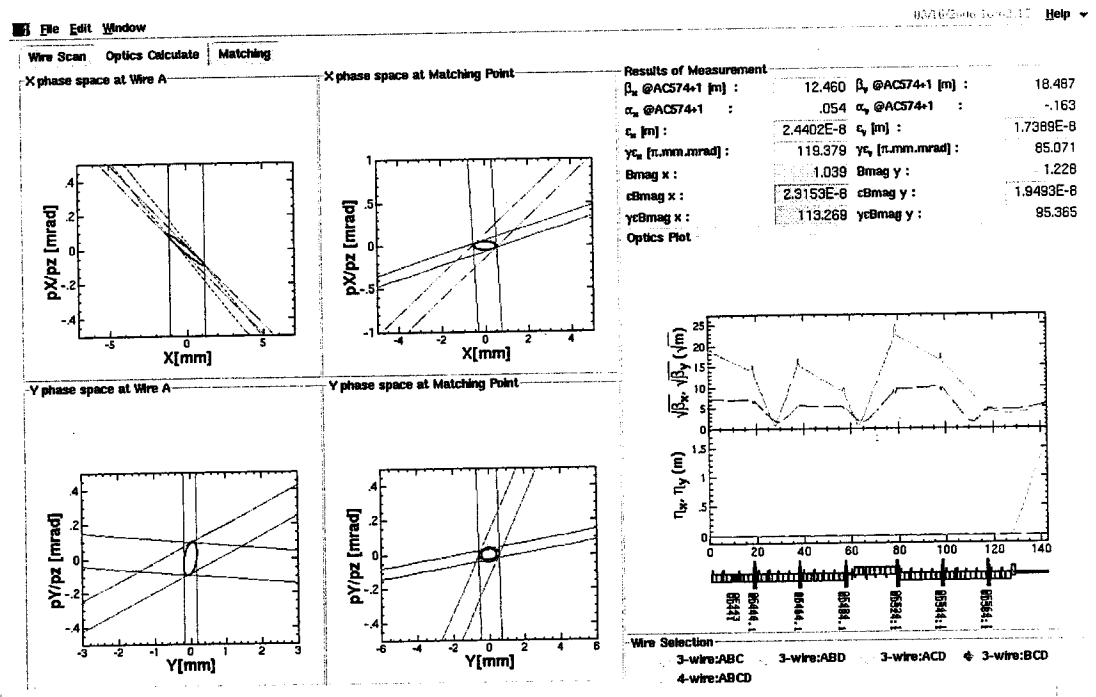
0.1 nC

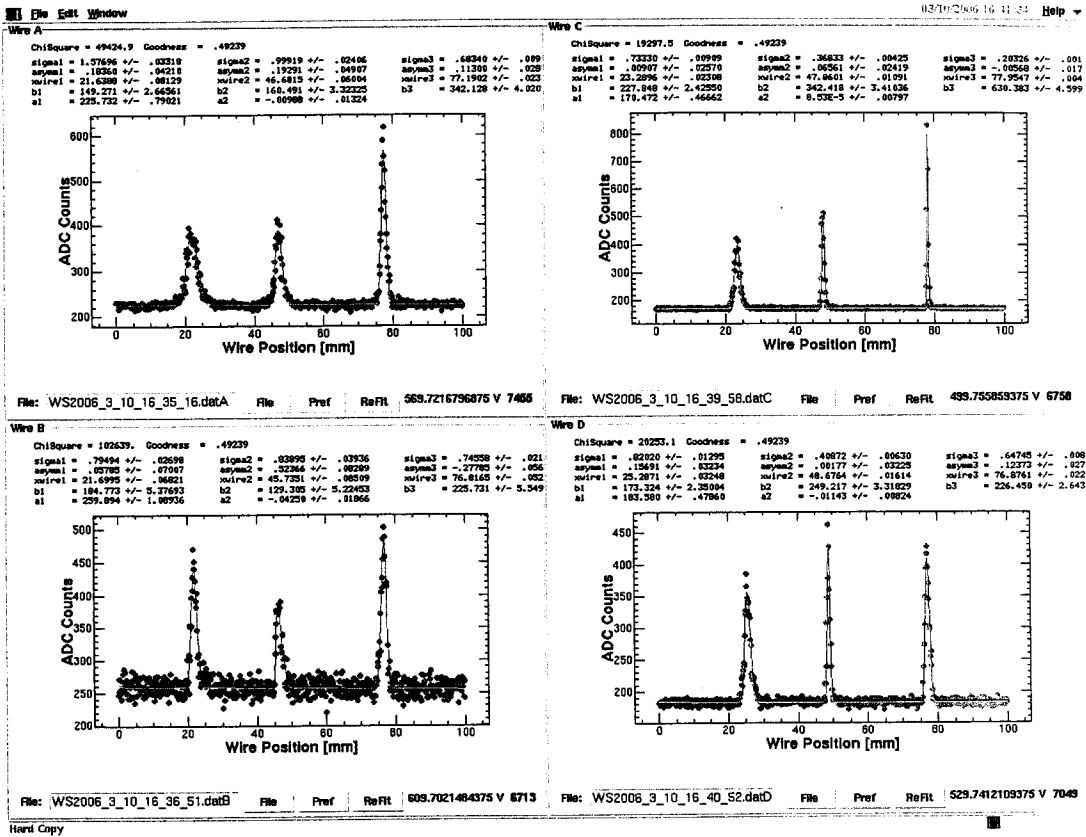
15:43 5079- 2.50eV 0.1nC 7. ワヤ-スキャナ-測定



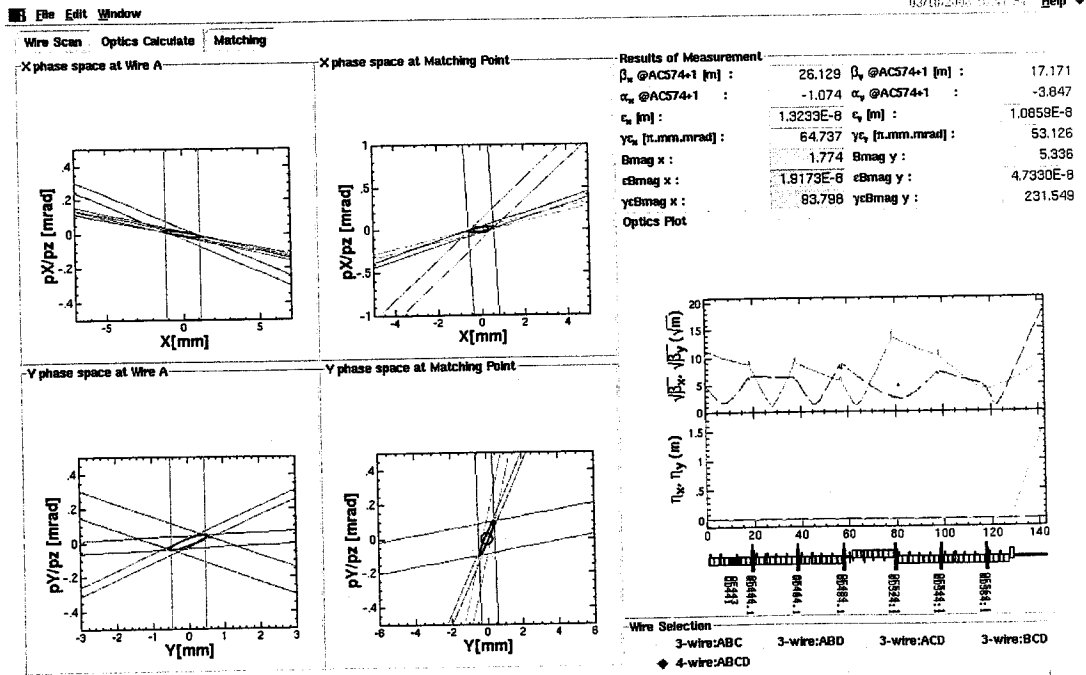
Hard Copy

5079- JArc IRF- JARC





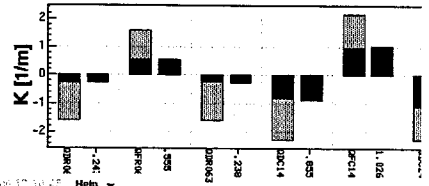
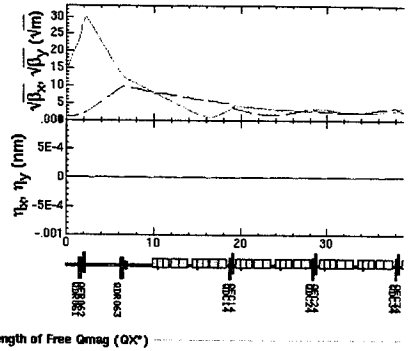
Arc ≈ 1.7 GeV/c Energy F.B. Ch



先此 e 也 - Matching LFC 方 的 良

Ce77 - ϵ Matching

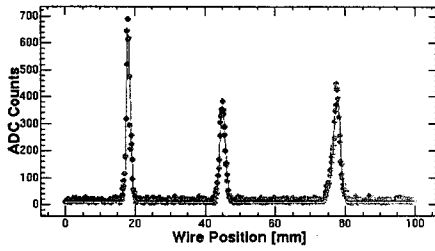
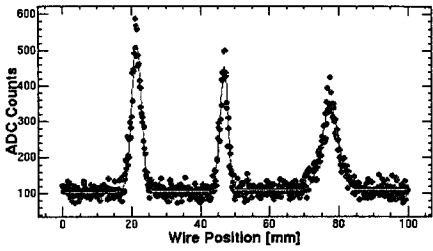
2回目の Matching \rightarrow
E set



File Edit Window

Wire A
ChiSquare = 24730.0 Goodness = .49229
sigma1 = 1.39697 +/- .02330 sigma2 = 1.11011 +/- .02629 sigma3 = 2.28212 +/- .059
asym1 = -.09819 +/- .03893 asym2 = -.11540 +/- .04877 asym3 = -.04852 +/- .050
wire1 = 21.3916 +/- .06318 wire2 = 46.8649 +/- .06631 wire3 = 77.0264 +/- .146
b1 = 411.301 +/- 6.22693 b2 = 347.079 +/- 7.82728 b3 = 231.993 +/- 4.884
a1 = 104.436 +/- 1.76816 a2 = .07862 +/- .03101

Wire C
ChiSquare = 11209.0 Goodness = .49216
sigma1 = .94095 +/- .00706 sigma2 = .77143 +/- .01487 sigma3 = 1.00362 +/- .016
asym1 = .23852 +/- .02630 asym2 = -.06965 +/- .04008 asym3 = -.22875 +/- .032
wire1 = 13.8857 +/- .01747 wire2 = 44.9568 +/- .03705 wire3 = 77.7371 +/- .039
b1 = 630.748 +/- 7.02942 b2 = 355.167 +/- 5.89384 b3 = 378.494 +/- 5.192
a1 = 12.0080 +/- 1.26538 a2 = -.00375 +/- .02092

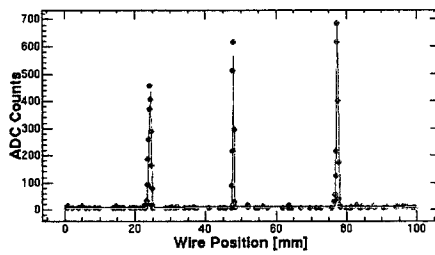
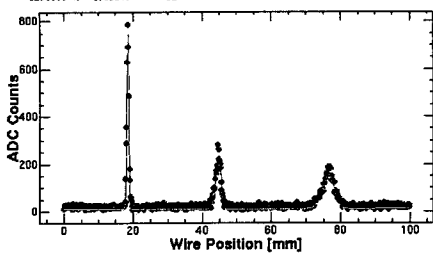


File: WS2006_3_10_17_4_1.datA File Pref ReFit 659.677734375 V 6330

File: WS2006_3_10_17_6_52.datC File Pref ReFit 523.7412109375 V 4958

Wire B
ChiSquare = 97775.0 Goodness = .49232
sigma1 = .30305 +/- .00406 sigma2 = .77941 +/- .02226 sigma3 = 1.78025 +/- .054
asym1 = -.12837 +/- .02740 asym2 = -.22450 +/- .03908 asym3 = -.12735 +/- .063
wire1 = 16.4564 +/- .01815 wire2 = 44.7464 +/- .03536 wire3 = 76.4697 +/- .134
b1 = 740.428 +/- 8.57077 b2 = 217.109 +/- 5.34364 b3 = 140.672 +/- 3.602
a1 = 12.8088 +/- 1.86647 a2 = .01350 +/- .01896

Wire D
ChiSquare = 12711.9 Goodness = .48074
sigma1 = .33830 +/- .00685 sigma2 = .17650 +/- .00328 sigma3 = 1.19083 +/- .063
asym1 = -.11819 +/- .04098 asym2 = -.21100 +/- .04673 asym3 = -.07719 +/- .031
wire1 = 21.2970 +/- .01678 wire2 = 41.8262 +/- .01655 wire3 = 77.2254 +/- .037
b1 = 432.978 +/- 7.42681 b2 = 617.754 +/- 9.96506 b3 = 691.301 +/- 9.669
a1 = 7.28786 +/- 2.43546 a2 = .05219 +/- .04099



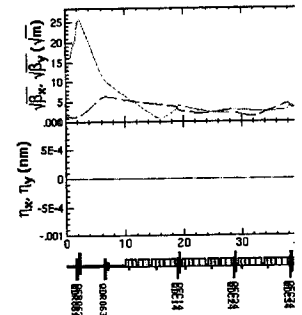
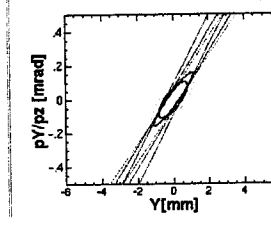
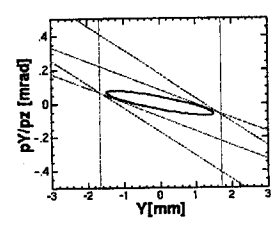
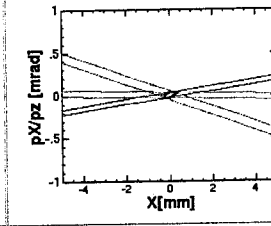
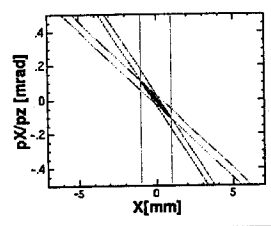
File: WS2006_3_10_17_4_52.datB File Pref ReFit 549.7314453125 V 6305

File: WS2006_3_10_17_9_22.datD File Pref ReFit 449.7802734375 V 5075

Summary of Measurement:

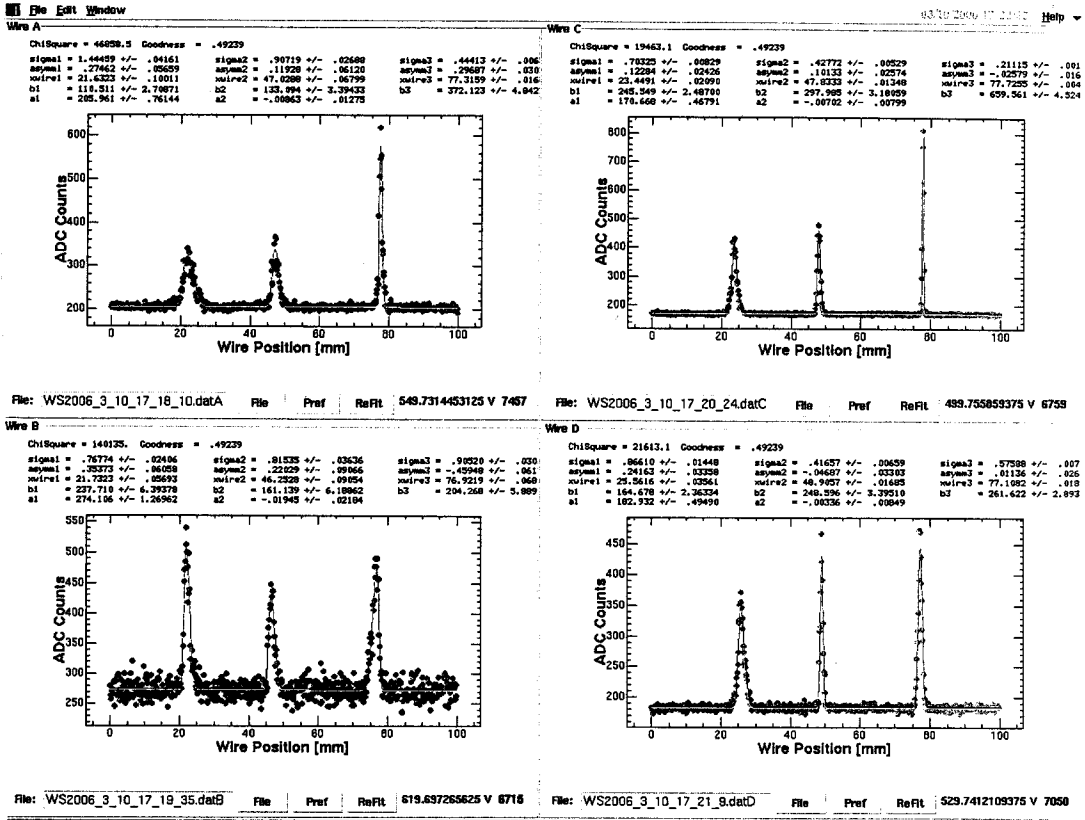
1DC34 [m] :	9.809	β_x @QDC34 [r]
1DC34 :	-688	c_x [m]
c_x [m] :	7.6765E-9	c_y [m] :
γ_x [1/mm.mrad] :	33.107	γ_y [1/mm.mrad] :
Bmag x :	1.085	Bmag y :
cBmag x :	1.0798E-8	cBmag y :
γ_c Bmag x :	46.570	γ_c Bmag y :

Optics Plot

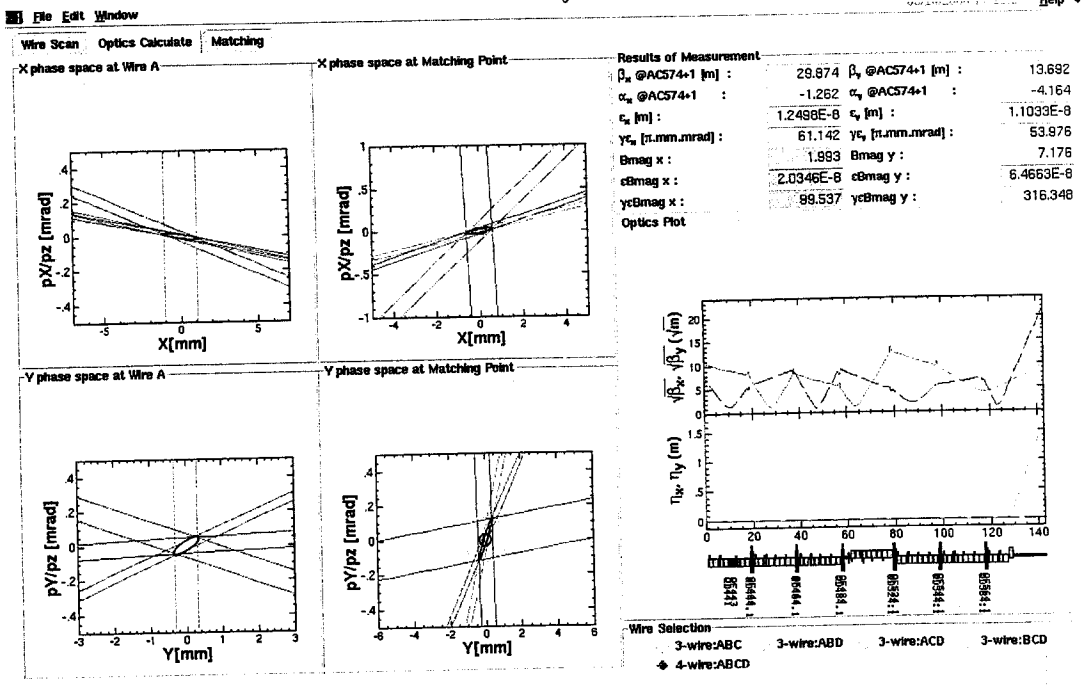


Wire Selection
◆ 3-wire:ABC 3-wire:ABD 3-wire:AC

"LINAC-BT-2bunch-V1.4-Study.sad". 5 sector PF 2 22 27



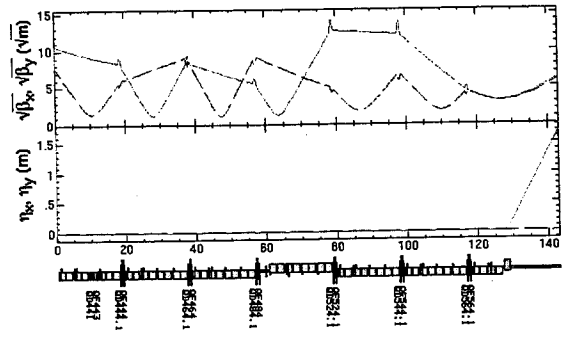
5077 - 0.1 mC 2.5 GeV
 C077 - Matching 後



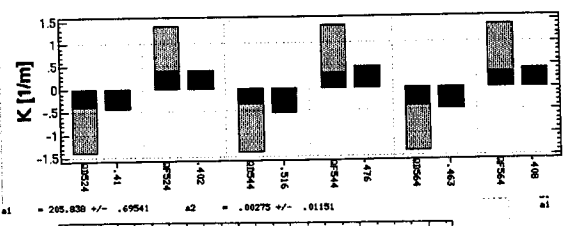
(KEKB e-like)
 about 17. kbc の S 読み.

detector 17. A → Y
 (pT-like) B } → X
 C }
 D }

① 17. A1 GUN の S (KEKB e-like)

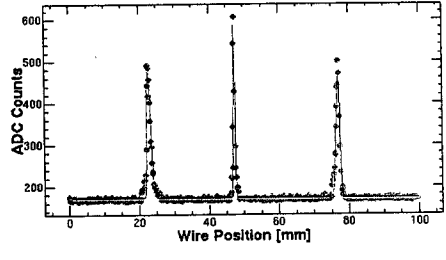
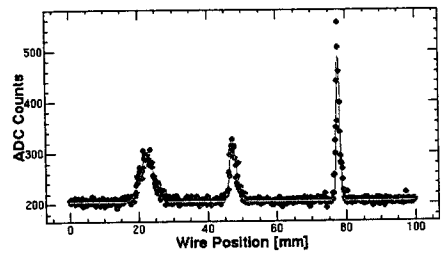


Strength of Free Qmag (QX*)



1025.9 Goodness = .49239

sigma1 = .00096	sigma2 = .22286 +/- .00394	sigma3 = .54592 +/- .008
sigma4 = .02717	sigma5 = .08212 +/- .03446	sigma6 = -.17888 +/- .032
sigma7 = .01825	sigma8 = 47.1422 +/- .00979	sigma9 = 76.9380 +/- .021
sigma10 = 3.99584	sigma11 = 417.008 +/- 6.11348	sigma12 = 293.353 +/- 3.952
sigma13 = 171.368 +/- .65743	sigma14 = -.01172 +/- .01136	



Matching 後のデータ
 data 147. a 11
 (Multi-Energy Orbit
 (2.5GeV 0.1nc 5-sec
 match-end))

File: WS2006_3_10_17_25_59.datA File: Pref ReFit 549.7314453125 V 7458

File: WS2006_3_10_17_27_39.datC File: Pref ReFit 499.755859375 V 5768

re B

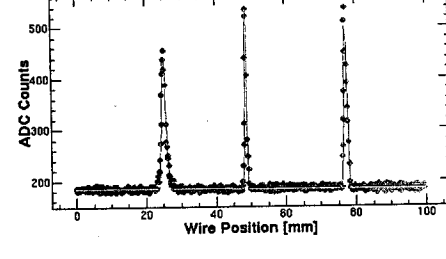
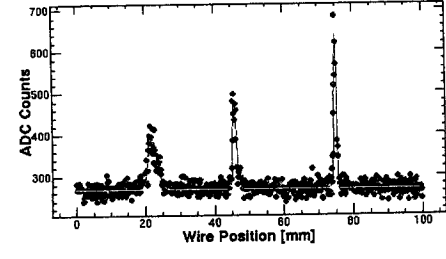
ChiSquare = 143223. Goodness = .49239

sigma1 = 1.26397 +/- .06146	sigma2 = .53529 +/- .02531	sigma3 = 38186 +/- .010
sigma4 = 33778 +/- .09398	sigma5 = 36144 +/- .07421	sigma6 = -14951 +/- .029
sigma7 = 21.4608 +/- .14539	sigma8 = 45.3560 +/- .04869	sigma9 = 74.9546 +/- .027
sigma10 = 121.798 +/- 5.85670	sigma11 = 205.336 +/- 7.71998	sigma12 = 368.789 +/- 9.137
sigma13 = 269.518 +/- 1.31243	sigma14 = .00376 +/- .02510	

Wire D

ChiSquare = 2268.0. Goodness = .49239

sigma1 = .61476 +/- .00868	sigma2 = .26768 +/- .00399	sigma3 = .46383 +/- .005
sigma4 = .09168 +/- .02722	sigma5 = -.10041 +/- .02866	sigma6 = 1.2836 +/- .025
sigma7 = 24.9468 +/- .02049	sigma8 = 48.5692 +/- .01010	sigma9 = 77.0187 +/- .014
sigma10 = 283.205 +/- 2.86473	sigma11 = 348.489 +/- 4.17615	sigma12 = 315.145 +/- 3.294
sigma13 = 184.774 +/- .50077	sigma14 = -.00968 +/- .00863	



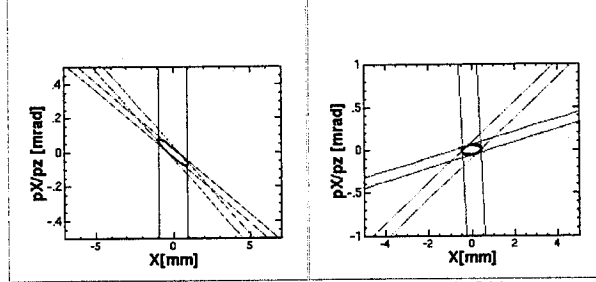
① ②
 * ECS OA

File: WS2006_3_10_17_26_47.datB File: Pref ReFit 619.697265625 V 5716

File: WS2006_3_10_17_28_16.datD File: Pref ReFit 529.7412109375 V 7052

Wire Scan Optics Calculate Matching

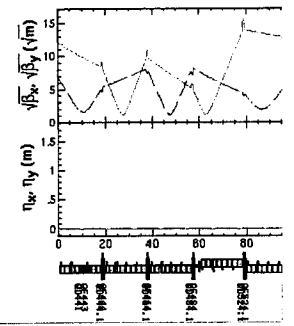
X phase space at Wire A X phase space at Matching Point



Results of Measurement

β_x @ACS74+1 [m]	7.103	β_x @ACS74+1
α_x @ACS74+1	-.432	α_x @ACS74+1
c_x [m]	2.6116E-8	c_x [m]
γ_x [1/mm.mrad]	127.765	γ_x [1/mm.mrad]
Bmag x	1.168	Bmag y
eBmag x	2.7846E-8	eBmag y
γ_e Bmag x	136.230	γ_e Bmag y

Optics Plot



Wire Selection 3-wire:ABC 3-wire:ABD 3-wire:AC