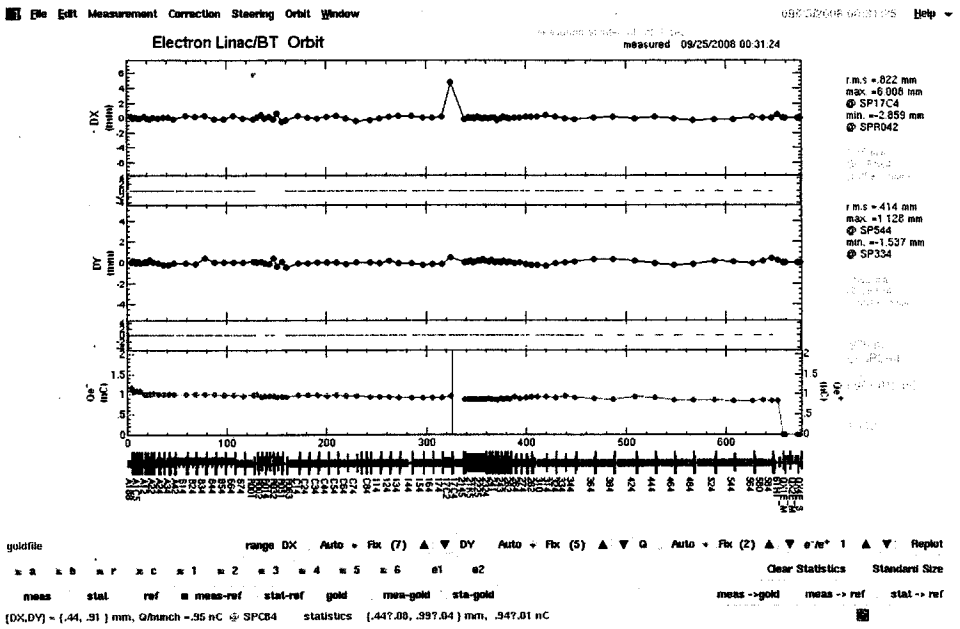
71

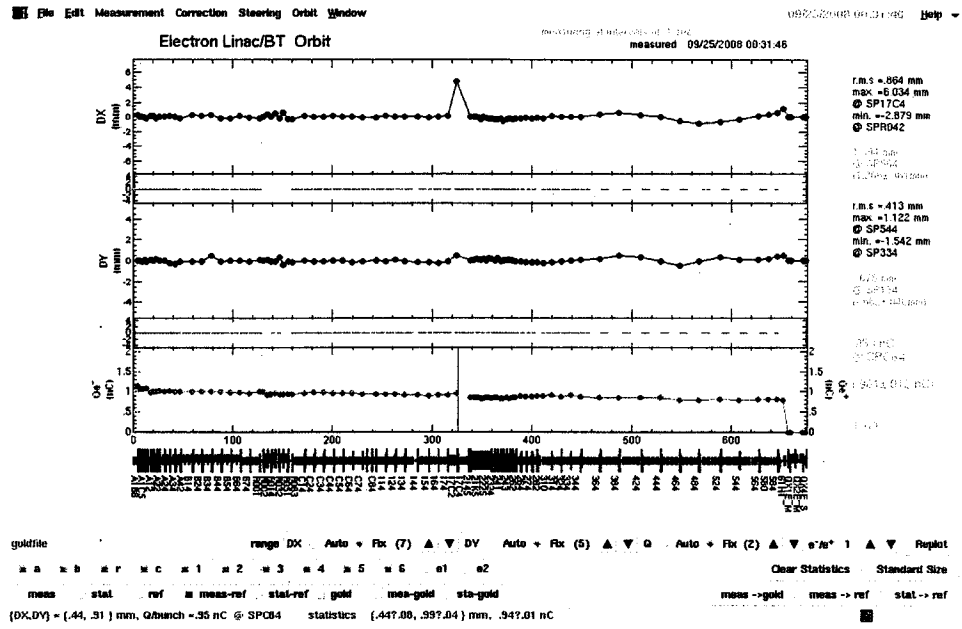
Bump height by I_12C1	x_12C4.	Q_21_K5	
8.0	6.1 mm	0.850 nC	TGT out
6.0	4.9	0.66	
6.5	5.2	0.75	
7.0	5.5	0.82	
7.5	5.8	0.83	
8.0	6.1	0.85 ←	TGT in
8.5	6.3	0.82	
9.0	6.6	0.71	
9.5	6.9	0.46	
9.5		0.47	TGT out

24 : 30

beam spot @21_T



TGT out



TGT in

24:36

KEKB e⁻ ビーム. ほぼ 100% 近く通った

73

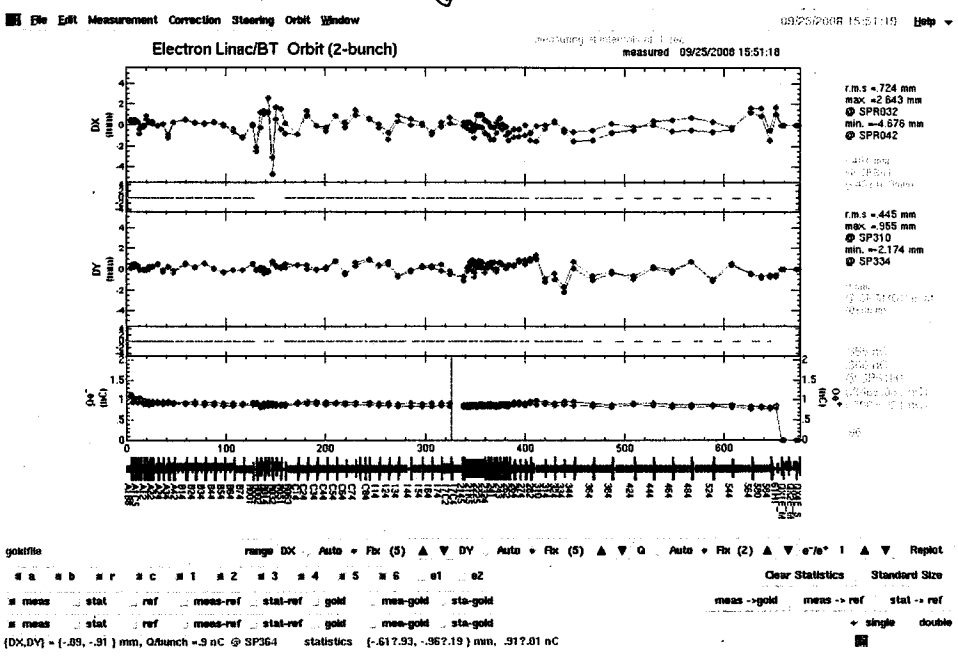
2008.9.25

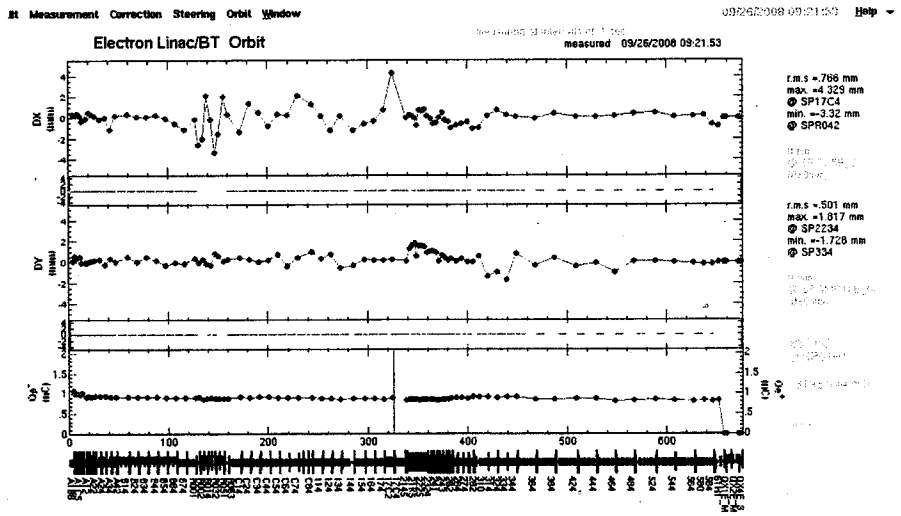
課題 Target Bump

① TGT out での Bump Height vs 通過率　KEKB e⁻ 1.2-bunch
② 〃 in
③ TGT out 〃　PFビーム
④ 〃 in 〃

但しその前に、y方向について最適化するべし。
BPMデータは 5-time average にしておく。

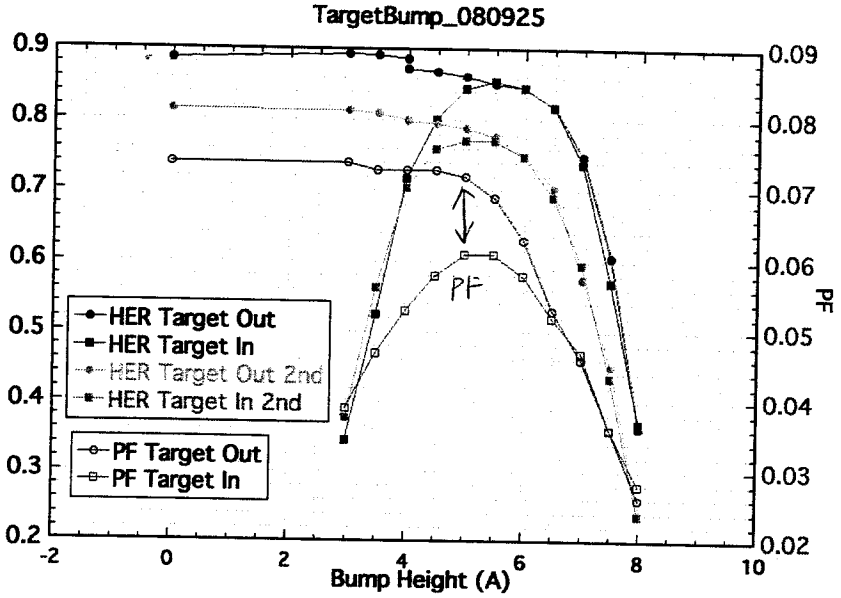
KEKB(e⁻) 生軌道 ↓





パルスステアリング Study 17:∞～

KEKB e⁻ で軌道がまっすぐになるように調整後、Bump調整 -



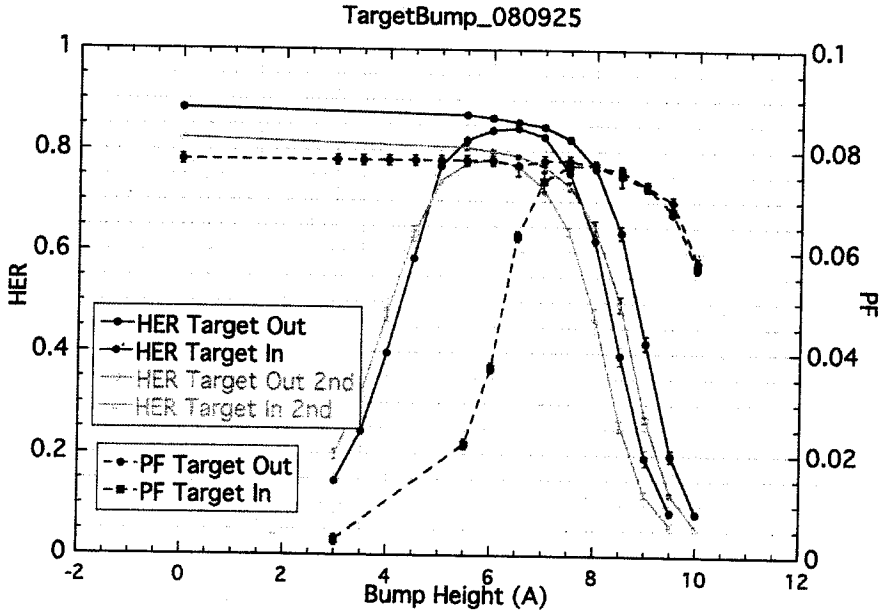
PF ビーム target IN での透過率が悪い

⇒ Arc 部の ﾌｧｲﾙで大きな Tail 有り = Energy Spread

A, B セクターの SUB Booster を調整し、Energy Spread を小さくした

⇓

透過率改善した。



(px_17_c1)

75

'08.9.26

田中ニフト

Study (小川、飯田

富豊、水川

バンプ、Target なしで 5セクターワイヤースキャナーで測定

Pfa1

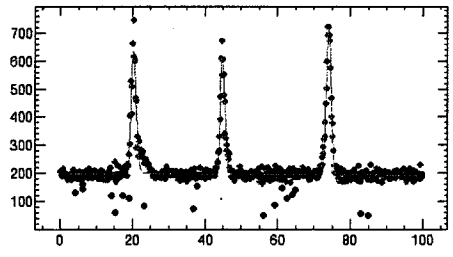
File Edit Control Window

09/26/2008 10:46:33 Help

Wire A

ChiSquare = 242168. Goodness = .49227

sigma1 = .67999 +/- .01682 | sigma2 = .60868 +/- .01639 | sigma3 = .67220 +/- .01382
asymm1 = .15436 +/- .05149 | asymm2 = .27438 +/- .05419 | asymm3 = -.07510 +/- .04256
xwire1 = 20.1346 +/- .04214 | xwire2 = 44.8534 +/- .04041 | xwire3 = 74.0896 +/- .03505
b1 = 436.734 +/- 9.11379 | b2 = 411.832 +/- 9.93814 | b3 = 515.537 +/- 9.11181
a1 = 201.485 +/- 1.72280 | a2 = -.08301 +/- .02939

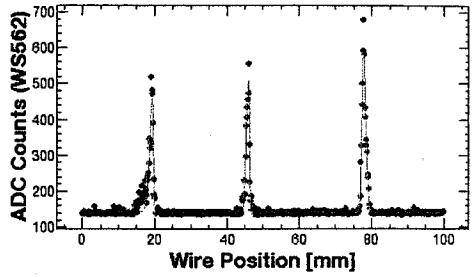


File: /PF/data/Raw/WS2008_9_26_10 File Pref ReFit 480 V Z195

Wire C

ChiSquare = 102990. Goodness = .49239

sigma1 = .52081 +/- .01275 | sigma2 = .44511 +/- .01004 | sigma3 = .55519 +/- .00931
asymm1 = .64379 +/- .03682 | asymm2 = -.58287 +/- .04132 | asymm3 = .31152 +/- .03325
xwire1 = 19.4015 +/- .02311 | xwire2 = 45.0503 +/- .02256 | xwire3 = 77.6090 +/- .02261
b1 = 317.118 +/- 6.67391 | b2 = 366.597 +/- 7.13460 | b3 = 445.950 +/- 6.43340
a1 = 144.722 +/- 1.07629 | a2 = -.05112 +/- .01857

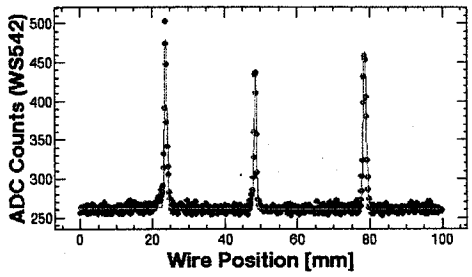


File: /PF/data/Raw/WS2008_9_26_10 File Pref ReFit 680 V 1934

Wire B

ChiSquare = 16906.2 Goodness = .49239

sigma1 = .34832 +/- .00808 | sigma2 = .32709 +/- .00739 | sigma3 = .44934 +/- .00737
asymm1 = .11063 +/- .03820 | asymm2 = -.14238 +/- .04679 | asymm3 = .08056 +/- .03387
xwire1 = 23.6323 +/- .01534 | xwire2 = 48.4963 +/- .01872 | xwire3 = 78.4946 +/- .01869
b1 = 217.678 +/- 3.22795 | b2 = 173.740 +/- 3.39202 | b3 = 205.040 +/- 2.89595
a1 = 263.237 +/- .42871 | a2 = -.02053 +/- .00743

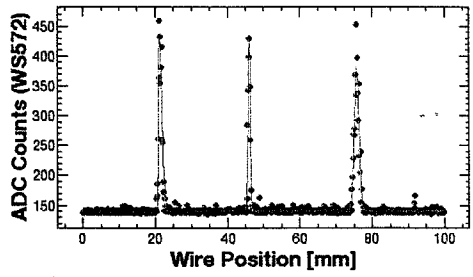


File: /PF/data/Raw/WS2008_9_26_10 File Pref ReFit 550 V Z024

Wire D

ChiSquare = 53794.7 Goodness = .49239

sigma1 = .46926 +/- .00946 | sigma2 = .29195 +/- .00750 | sigma3 = .64657 +/- .01329
asymm1 = .62733 +/- .03297 | asymm2 = .07059 +/- .05372 | asymm3 = .07494 +/- .04256
xwire1 = 21.0112 +/- .01929 | xwire2 = 45.9676 +/- .01923 | xwire3 = 75.8401 +/- .03370
b1 = 290.128 +/- 5.04874 | b2 = 288.002 +/- 6.39194 | b3 = 243.870 +/- 4.31001
a1 = 140.481 +/- .77072 | a2 = .00721 +/- .01335



File: /PF/data/Raw/WS2008_9_26_10 File Pref ReFit 680 V 1854

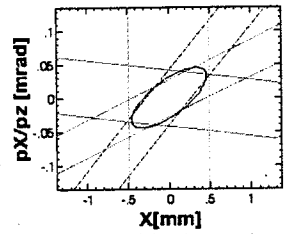
Select Matching zone on localhost:11.0

09/26/2008 10:46:38 Help

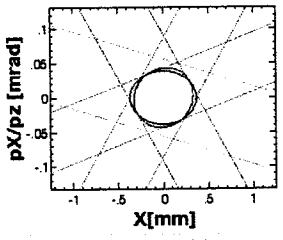
File Edit Window

Wire Scan Optics Calculate Matching

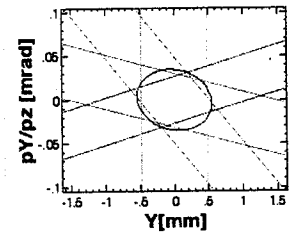
X phase space at Wire A



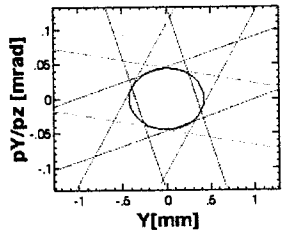
X phase space at Matching Point



Y phase space at Wire A



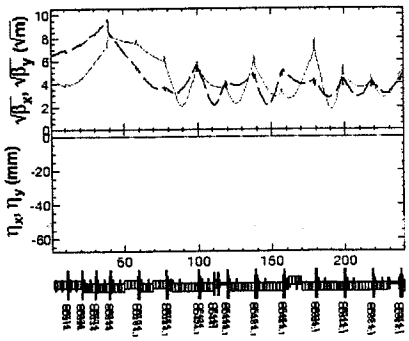
Y phase space at Matching Point



Results of Measurement

β_x @AC574+1 [m] :	7.524	β_y @AC574+1 [m] :	9.635
α_x @AC574+1 :	-.090	α_y @AC574+1 :	.003
ε_x [m] :	1.4107E-8	ε_y [m] :	1.8825E-8
$\gamma\varepsilon_x$ [π.mm.mrad] :	69.017	$\gamma\varepsilon_y$ [π.mm.mrad] :	92.097
Bmag x :	1.032	Bmag y :	1.000
εBmag x :	1.4557E-8	εBmag y :	1.8825E-8
γεBmag x :	71.217	γεBmag y :	92.097

Optics Plot



Wire Selection

3-wire:ABC 3-wire:ABD 3-wire:ACD 3-wire:BCD

◆ 4-wire:ABCD

■ NonLinearFit Err(meas), nσ n: 0 Err(opt) (%): 0

"Calculate Optics" Save All Parameters

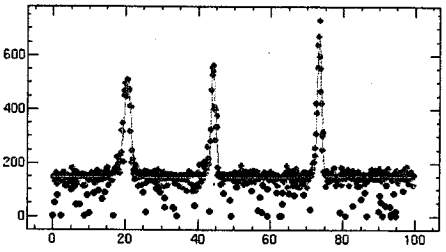
KEKBe⁻

File Edit Control

Wire A

ChiSquare = 279894. Goodness = .49193

sigma1 = .95055 +/- .02708	sigma2 = .62114 +/- .02102	sigma3 = .59447 +/- .01452
asymm1 = -.23617 +/- .05881	asymm2 = .23836 +/- .06922	asymm3 = .00782 +/- .05072
xwire1 = 20.7042 +/- .06813	xwire2 = 43.9987 +/- .05035	xwire3 = 73.3705 +/- .03693
b1 = 355.186 +/- 8.63070	b2 = 367.362 +/- 10.7035	b3 = 517.606 +/- 10.8704
a1 = 149.353 +/- 2.08306	a2 = .03567 +/- .03541	

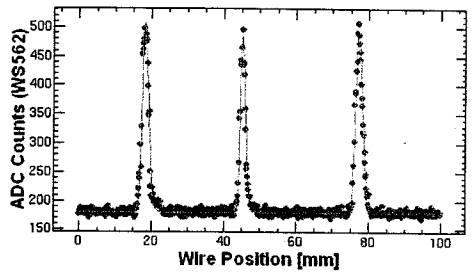


File: KBe/data/Raw/WS2008_9_26_1' File Pref ReFit 480 V 2197

Wire C

ChiSquare = 41017.2 Goodness = .49239

sigma1 = .88216 +/- .01026	sigma2 = .71260 +/- .00969	sigma3 = 1.00034 +/- .01171
asymm1 = .14126 +/- .02373	asymm2 = .16944 +/- .02790	asymm3 = .24998 +/- .02334
xwire1 = 18.1205 +/- .02563	xwire2 = 45.0658 +/- .02435	xwire3 = 77.0412 +/- .02869
b1 = 324.915 +/- 3.23112	b2 = 305.670 +/- 3.58092	b3 = 303.268 +/- 3.03315
a1 = 182.212 +/- .69776	a2 = -.01379 +/- .01201	

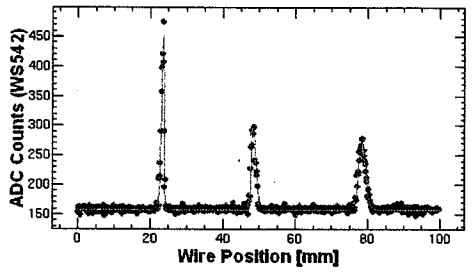


File: KBe/data/Raw/WS2008_9_26_1' File Pref ReFit 880 V 1936

Wire B

ChiSquare = 15654.9 Goodness = .49239

sigma1 = .38688 +/- .00455	sigma2 = .62156 +/- .01257	sigma3 = 1.00773 +/- .01951
asymm1 = -.59455 +/- .02275	asymm2 = .28499 +/- .04044	asymm3 = .15317 +/- .03939
xwire1 = 23.6530 +/- .01117	xwire2 = 48.2236 +/- .03079	xwire3 = 76.2835 +/- .04861
b1 = 293.002 +/- 2.97212	b2 = 135.731 +/- 2.36733	b3 = 112.921 +/- 1.86762
a1 = 159.398 +/- .41535	a2 = .00353 +/- .00726	

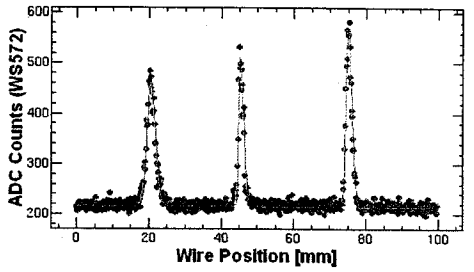


File: KBe/data/Raw/WS2008_9_26_1' File Pref ReFit 550 V 2027

Wire D

ChiSquare = 56533.8 Goodness = .49239

sigma1 = 1.19318 +/- .01927	sigma2 = .86845 +/- .01140	sigma3 = .80453 +/- .01090
asymm1 = .15861 +/- .03270	asymm2 = .51943 +/- .03061	asymm3 = .30189 +/- .02602
xwire1 = 20.3474 +/- .04779	xwire2 = 45.0079 +/- .02510	xwire3 = 74.9500 +/- .02564
b1 = 237.293 +/- 3.26807	b2 = 295.119 +/- 4.33670	b3 = 350.681 +/- 3.96390
a1 = 218.798 +/- .82777	a2 = -.02273 +/- .01405	



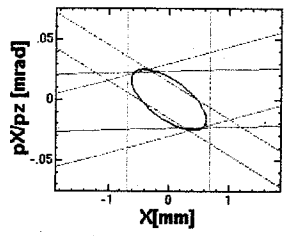
File: KBe/data/Raw/WS2008_9_26_1' File Pref ReFit 880 V 1856

File Edit Window

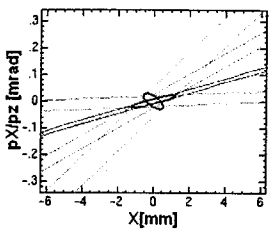
09/26/2008 12:09:08 Help

Wire Scan Optics Calculate Matching

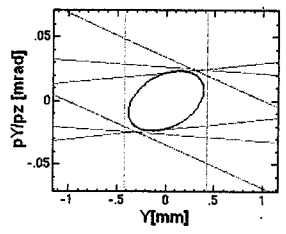
X phase space at Wire A



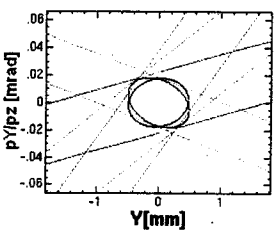
X phase space at Matching Point



Y phase space at Wire A



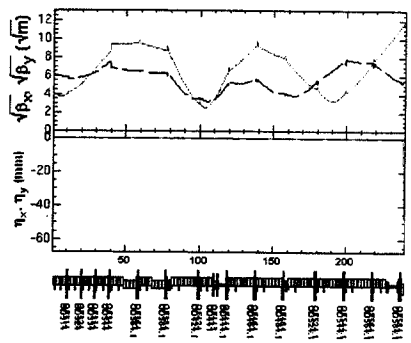
Y phase space at Matching Point



Results of Measurement

β_x @BM611E [m] :	134.807	β_y @BM611E [m] :	28.635
α_x @BM611E :	-2.266	α_y @BM611E :	.342
ϵ_x [m] :	1.1764E-8	ϵ_y [m] :	8.4562E-9
$\gamma\epsilon_x$ [π.mm.mrad] :	184.142	$\gamma\epsilon_y$ [π.mm.mrad] :	132.367
Bmag x :	7.528	Bmag y :	1.101
εBmag x :	8.8563E-8	εBmag y :	9.3112E-9
γεBmag x :	1386.305	γεBmag y :	145.751

Optics Plot



Wire Selection

3-wire:ABC 3-wire:ABD 3-wire:ACD 3-wire:BCD

◆ 4-wire:ABCD

NonLinearFit Err(meas), nσ n: 0 Err(opt) (%): 0

Calculate Optics Save All Parameters

77

PX-17-01

Pta1

バンチ: Target ⑦ (6.5 ~~mA~~ A) で再測定

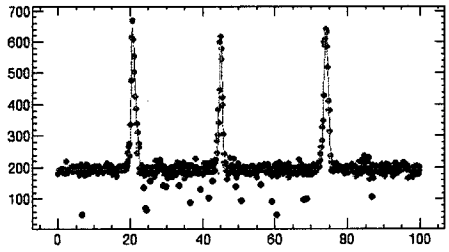
File Edit Control Window

09/26/2008 14:05:27 Help

Wire A

ChiSquare = 137805. Goodness = .49226

sigma1 = .56852 +/- .01091	sigma2 = .46781 +/- .01149	sigma3 = .82575 +/- .01170
asymm1 = .47931 +/- .03457	asymm2 = -.11508 +/- .04686	asymm3 = .04707 +/- .03679
xwire1 = 20.4392 +/- .02402	xwire2 = 45.0573 +/- .02921	xwire3 = 74.0393 +/- .02973
b1 = 454.087 +/- 7.49696	b2 = 398.781 +/- 8.08433	b3 = 443.770 +/- 7.13400
a1 = 196.103 +/- 1.26627	a2 = -.00648 +/- .02197	

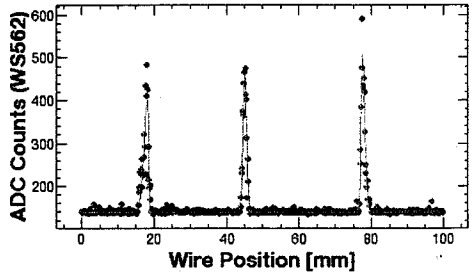


File: /PF/data/Raw/WS2008_9_26_12 File Pref ReFit 460 V 2200

Wire C

ChiSquare = 101070. Goodness = .49239

sigma1 = .63575 +/- .01689	sigma2 = .51782 +/- .01223	sigma3 = .53006 +/- .01091
asymm1 = -.63292 +/- .04396	asymm2 = .00761 +/- .04933	asymm3 = .31733 +/- .04065
xwire1 = 18.2043 +/- .03444	xwire2 = 45.0065 +/- .03129	xwire3 = 77.4364 +/- .02639
b1 = 281.348 +/- 5.93046	b2 = 323.215 +/- 6.56825	b3 = 368.347 +/- 6.52440
a1 = 141.362 +/- 1.07702	a2 = -.01234 +/- .01849	

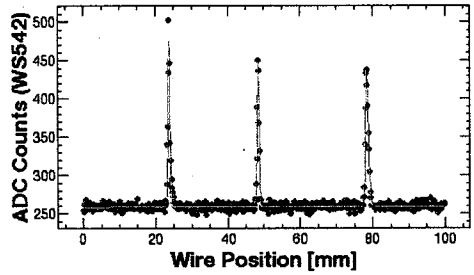


File: /PF/data/Raw/WS2008_9_26_12 File Pref ReFit 680 V 1940

Wire B

ChiSquare = 12129.5 Goodness = .49239

sigma1 = .28955 +/- .00470	sigma2 = .26880 +/- .00520	sigma3 = .40979 +/- .00985
asymm1 = -.06147 +/- .03414	asymm2 = .03024 +/- .04033	asymm3 = .26729 +/- .03346
xwire1 = 23.6659 +/- .01210	xwire2 = 48.3754 +/- .01327	xwire3 = 76.3152 +/- .01660
b1 = 217.998 +/- 3.05314	b2 = 189.007 +/- 3.18534	b3 = 178.243 +/- 2.56763
a1 = 259.315 +/- .36198	a2 = .00712 +/- .00626	

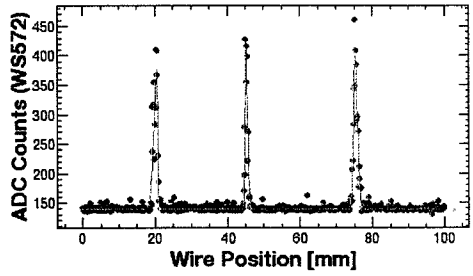


File: /PF/data/Raw/WS2008_9_26_12 File Pref ReFit 550 V 2030

Wire D

ChiSquare = 75590.9 Goodness = .49239

sigma1 = .54415 +/- .01482	sigma2 = .33685 +/- .00982	sigma3 = .52729 +/- .01310
asymm1 = -.65704 +/- .04062	asymm2 = .36926 +/- .05440	asymm3 = .18341 +/- .05065
xwire1 = 20.5846 +/- .02714	xwire2 = 45.0361 +/- .02246	xwire3 = 75.1943 +/- .03264
b1 = 237.983 +/- 5.57840	b2 = 256.172 +/- 7.06895	b3 = 264.344 +/- 5.65401
a1 = 140.789 +/- .92009	a2 = .00116 +/- .01585	



File: /PF/data/Raw/WS2008_9_26_12 File Pref ReFit 680 V 1859

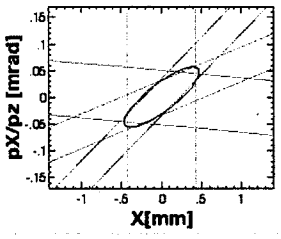
Select Matching zone on localhost:11.0

File Edit Window

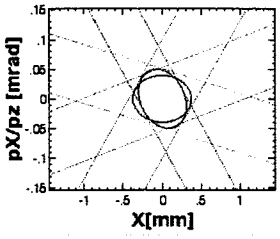
09/26/2008 14:06:58 Help

Wire Scan Optics Calculate Matching

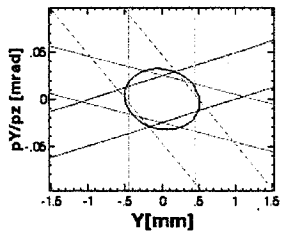
X phase space at Wire A



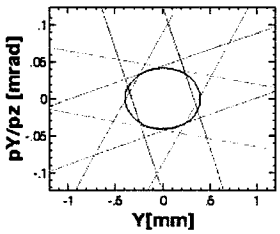
X phase space at Matching Point



Y phase space at Wire A



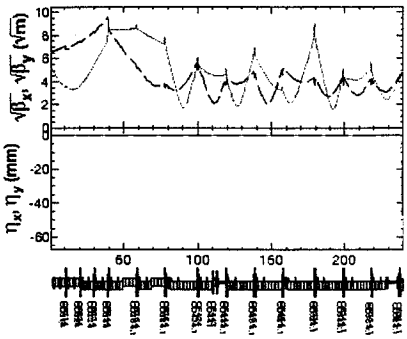
Y phase space at Matching Point



Results of Measurement

β_x @AC574+1 [m] :	6.304	β_y @AC574+1 [m] :	9.635
α_x @AC574+1 :	.253	α_y @AC574+1 :	.003
ε_x [m] :	1.4648E-8	ε_y [m] :	1.6329E-8
$\gamma\varepsilon_x$ [π.mm.mrad] :	71.666	$\gamma\varepsilon_y$ [π.mm.mrad] :	79.888
Bmag x :	1.131	Bmag y :	1.000
εBmag x :	1.6566E-8	εBmag y :	1.6329E-8
γεBmag x :	81.047	γεBmag y :	79.888

Optics Plot



Wire Selection

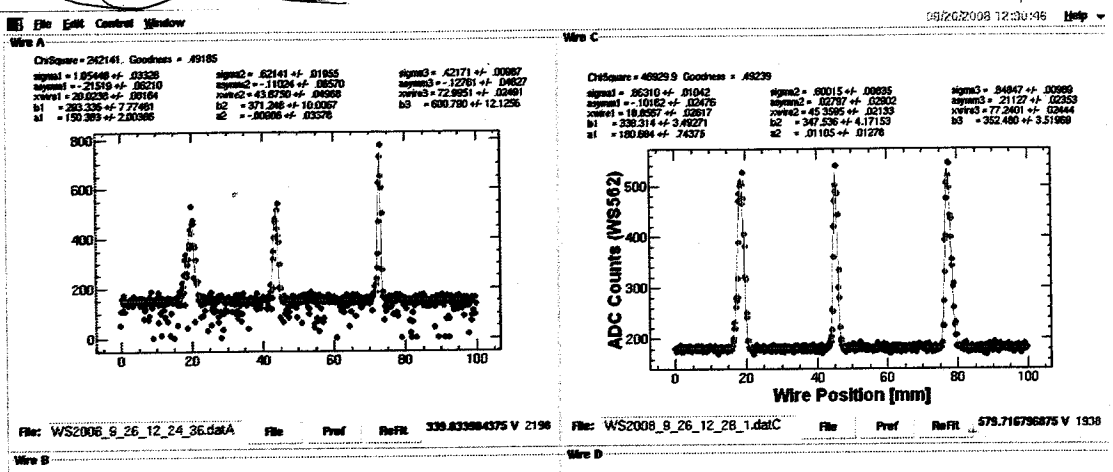
3-wire:ABC 3-wire:ABD 3-wire:ACD 3-wire:BCD

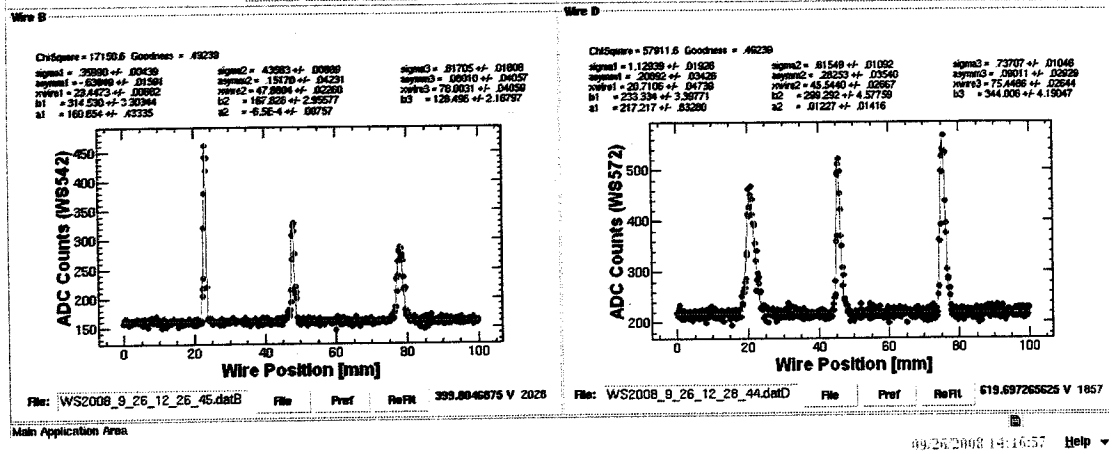
◆ 4-wire:ABCD

NonLinearFit Err(meas), nσ n: 0 Err(opt) (%): 0

"Calculate Optics" Save All Parameters

HER KEKBe⁻





β_x @BM611E [m] :	173.574	β_y @BM611E [m] :	29.618
α_x @BM611E :	-2.903	α_y @BM611E :	-.083
ε_x [m] :	6.8292E-9	ε_y [m] :	8.6947E-9
$\gamma\varepsilon_x$ [π.mm.mrad] :	106.899	$\gamma\varepsilon_y$ [π.mm.mrad] :	136.101
Bmag x :	9.626	Bmag y :	1.003
εBmag x :	6.5737E-8	εBmag y :	8.7243E-9
γεBmag x :	1029.005	γεBmag y :	136.564

Qmag values were SAVEd to /data1/KEKB/Wire/LINAC/sector5/KEKBe/data/Qvalue/lqname_2008_9_26_14_14_23.dat0

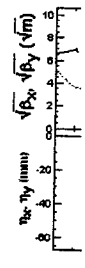
2008/09/26 A shift 5-Sec e- 25Hz 1st 水川

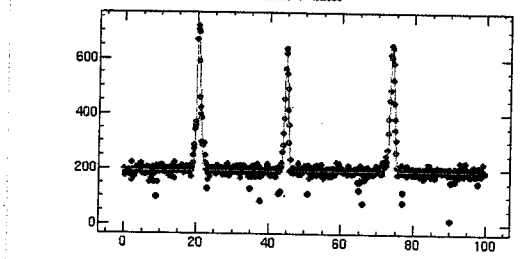
79 前頁 P.77 Matching を set してみたが悪くなったので元値に戻した。

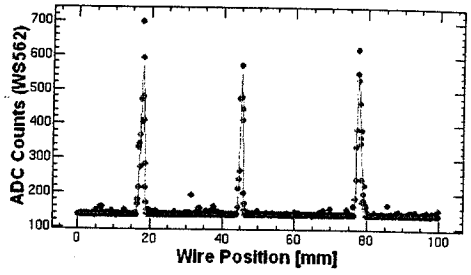
File Edit Window
Wire Scan Optics C

File Edit Control Window
Wire A
ChiSquare = 181631. Goodness = .49226
sigma1 = .55388 +/- .01083 sigma2 = .48187 +/- .01183 sigma3 = .81706 +/- .01240
asymm1 = .30823 +/- .03677 asymm2 = -.01618 +/- .05044 asymm3 = -.01058 +/- .04179
xwire1 = 20.2136 +/- .02832 xwire2 = 44.7436 +/- .02975 xwire3 = 73.9363 +/- .03159
b1 = 488.580 +/- 8.18351 b2 = 420.771 +/- 8.76090 b3 = 448.453 +/- 7.75362
a1 = 185.365 +/- 1.37799 a2 = .00185 +/- .02380

Wire C
09/26/2008 13:36:59 Help
ChiSquare = 136307. Goodness = .49239
sigma1 = .49880 +/- .01051 sigma2 = .39839 +/- .00973 sigma3 = .55008 +/- .01166
asymm1 = -.34082 +/- .04145 asymm2 = -.24083 +/- .05150 asymm3 = .39840 +/- .04010
xwire1 = 17.9232 +/- .02520 xwire2 = 45.2611 +/- .02454 xwire3 = 77.3894 +/- .02699
b1 = 430.332 +/- 7.83255 b2 = 407.765 +/- 8.82109 b3 = 407.976 +/- 7.43986
a1 = 138.505 +/- 1.23724 a2 = .00378 +/- .02137



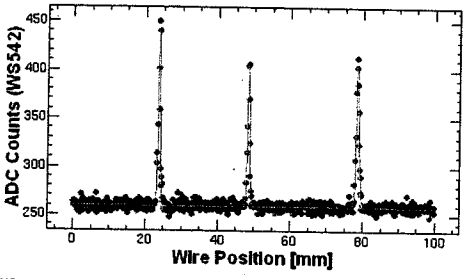


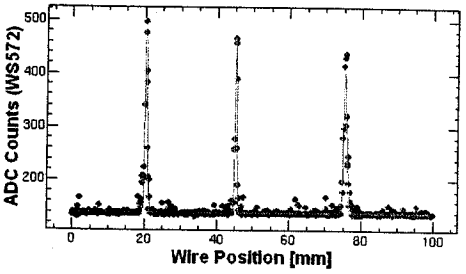


File: WS2008_9_26_13_32_57.datA File Pref ReFit 479.765625 V 2200
File: WS2008_9_26_13_34_56.datC File Pref ReFit 879.5703125 V 1948

Wire B
ChiSquare = 11436.8 Goodness = .49239
sigma1 = .29009 +/- .00536 sigma2 = .29825 +/- .00686 sigma3 = .40665 +/- .00800
asymm1 = -.20588 +/- .03720 asymm2 = .02127 +/- .04634 asymm3 = .12454 +/- .04041
xwire1 = 22.7603 +/- .01322 xwire2 = 48.4258 +/- .01754 xwire3 = 78.4770 +/- .02022
b1 = 185.541 +/- 2.96228 b2 = 145.845 +/- 2.92934 b3 = 147.963 +/- 2.49665
a1 = 260.524 +/- .35159 a2 = -.01398 +/- .00610

Wire D
ChiSquare = 54844.2 Goodness = .49239
sigma1 = .33531 +/- .00688 sigma2 = .26312 +/- .00627 sigma3 = .46704 +/- .01022
asymm1 = .15569 +/- .04174 asymm2 = -.02413 +/- .05031 asymm3 = .28616 +/- .04340
xwire1 = 20.2855 +/- .01712 xwire2 = 45.2499 +/- .01622 xwire3 = 75.2999 +/- .02480
b1 = 342.173 +/- 8.03953 b2 = 329.938 +/- 8.80032 b3 = 271.388 +/- 5.11770
a1 = 140.560 +/- .77340 a2 = -.01260 +/- .01339





K [1/m]

Q-Mag values were SET at

File: WS2008_9_26_13_34_12.datB File Pref ReFit 549.7314453125 V 2038
File: WS2008_9_26_13_35_42.datD File Pref ReFit 879.5703125 V 1859

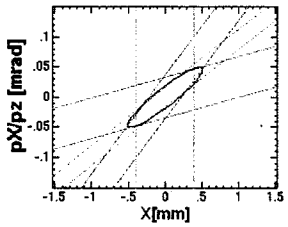
Select Matching zone on 172.19.66.32:0.0

PF-Ale-

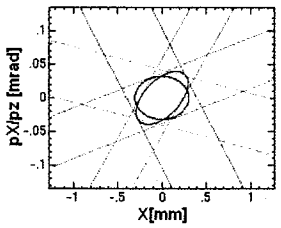
PF-Ale-

File Edit Window
09/26/2008 13:37:06 Help
Wire Scan Optics Calculate Matching

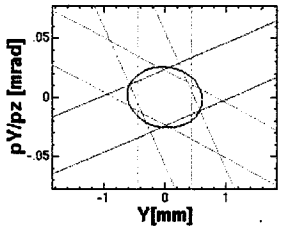
X phase space at Wire A



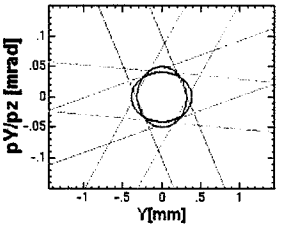
X phase space at Matching Point



Y phase space at Wire A



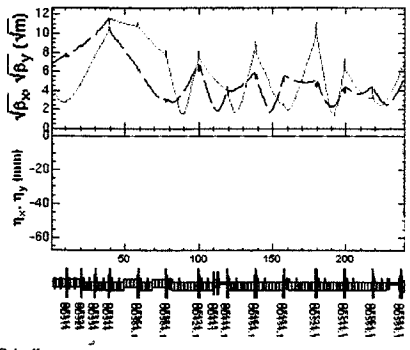
Y phase space at Matching Point



Results of Measurement

β_x @AC574+1 [m] :	6.825	β_y @AC574+1 [m] :	6.316
α_x @AC574+1 :	-.647	α_y @AC574+1 :	.010
ε_x [m] :	9.7461E-9	ε_y [m] :	1.5766E-8
$\gamma\varepsilon_x$ [π.mm.mrad] :	47.682	$\gamma\varepsilon_y$ [π.mm.mrad] :	77.134
Bmag x :	1.229	Bmag y :	1.091
εBmag x :	1.1978E-8	εBmag y :	1.7193E-8
γεBmag x :	58.601	γεBmag y :	84.117

Optics Plot

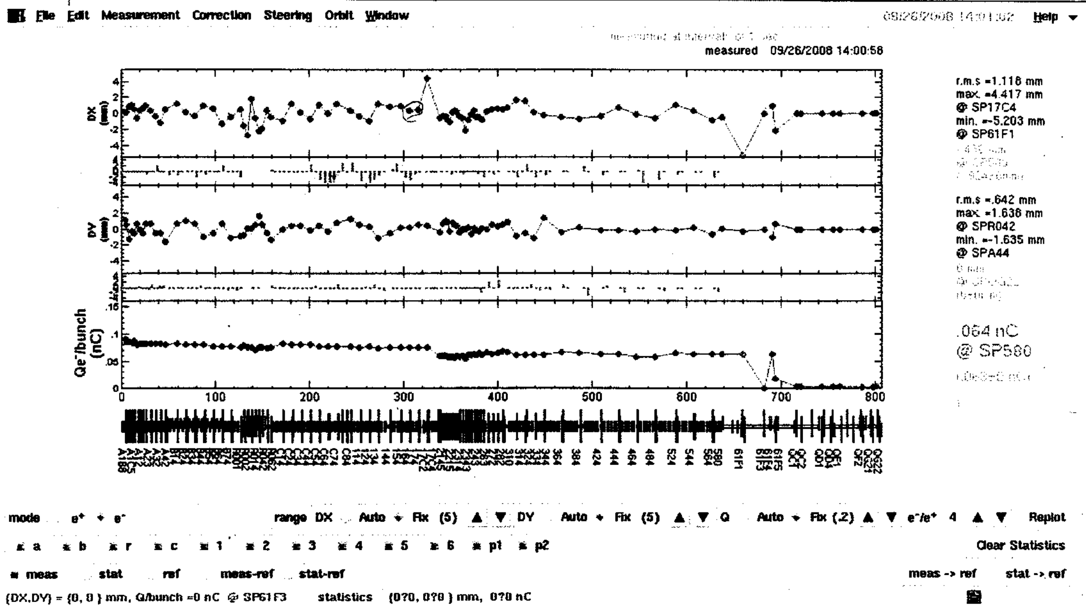


Wire Selection
3-wire:ABC 3-wire:ABD 3-wire:ACD 3-wire:BCD
4-wire:ABCD
NonLinearFit Err(meas), nσ n: 0 Err(opt) (%): 0
Calculate Optics Save All Parameters

All infornations are SAVEd to /data1/KEKB/Wire/LINAC/sector5/PF/data/MatchResult/WSL5PF_2008_9_26_13_37_6

PF-Ale-

バンプ軌道. どちらも. P~~X~~-17-C1 6.5(A)



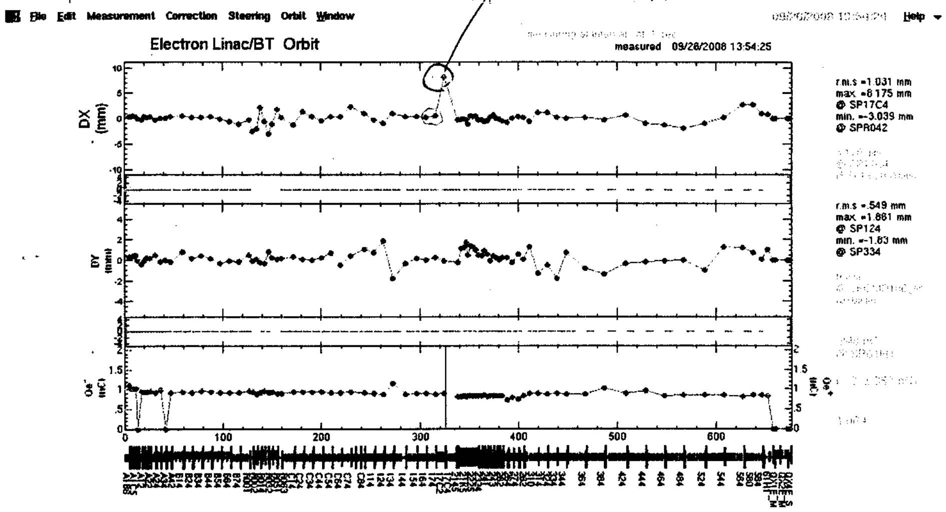
pfa1

生軌道が変わったので P.74(前夜)が再現していない

~~...7.5~~

6.0〜7.0A で通りが良い

約4mm offset

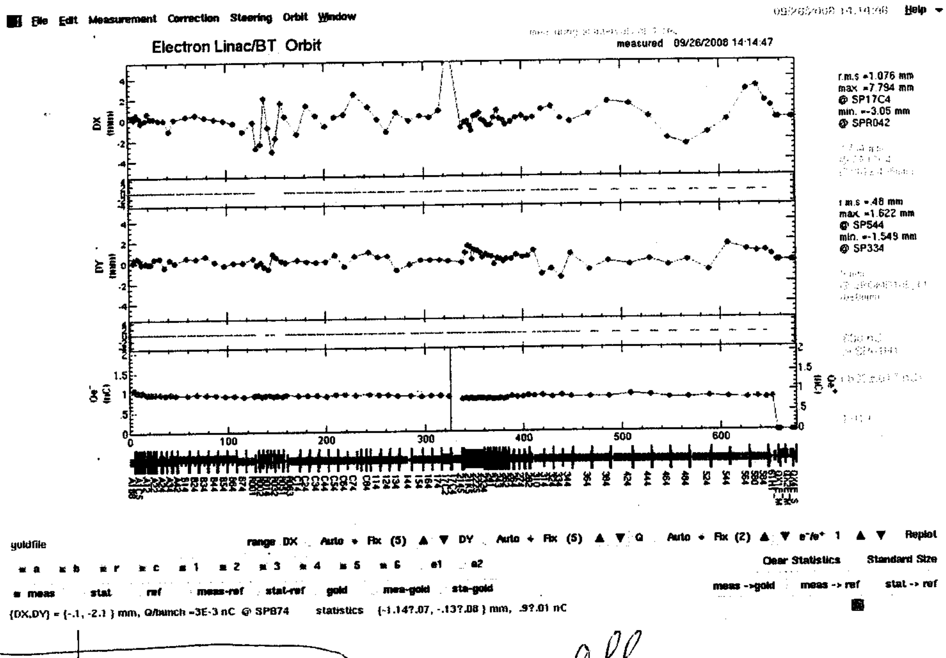


KEKBe⁻

バンプ高 良い ~~ところが~~ ~~...~~

6.0〜7.0A で通りが良い

拡大図



PFに切り換えても軌道良し
⇓
軌道FBが必要。

KEKBe⁻で ~~...4~~ ~~...5~~ ~~...~~ ~~...5~~

target前の軌道を平らにしたら通りが良い範囲が広くなった

"data 4756. all" にsave

KEKBe⁻/pf last∅com ~~com~~ all に save