- 20ms 波形で どれくらいの電流値まで作れる？

  FIG Out 310mV　　0.31V × 20A/V = 6.2A が最大

- バンプ軌道

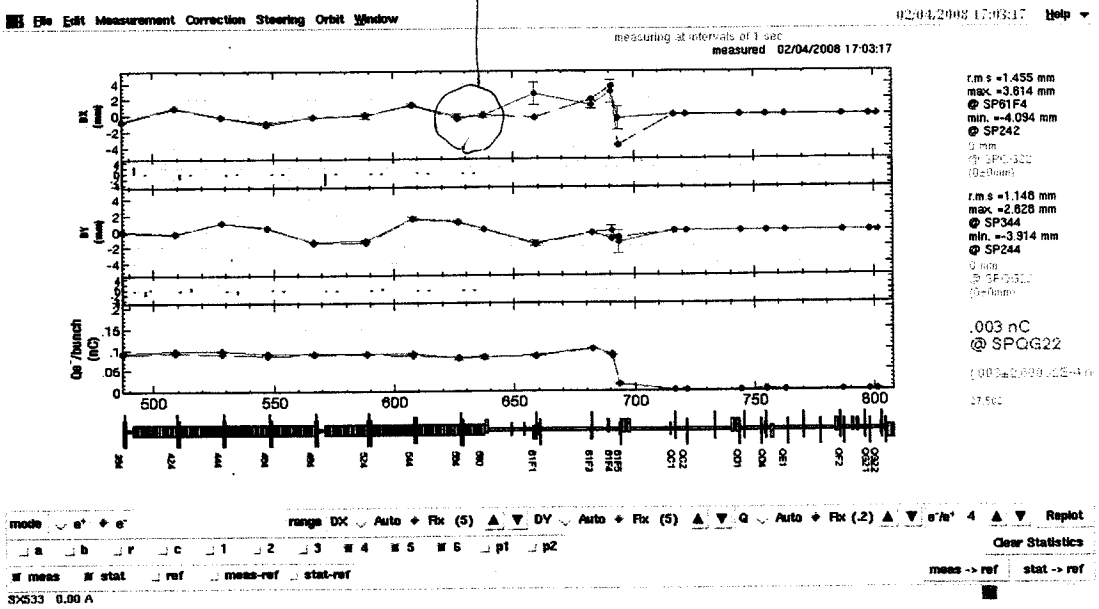
  PX_17_C1　パルスモード
  PX_17_C4　〃
  PX_21_45　DCモード
  ↳ で バンプになることを確認した

15:45

2008
2/4(月)　Multi-energy optics　　大西

1, target で絞る optics (PF_AI ビーム)

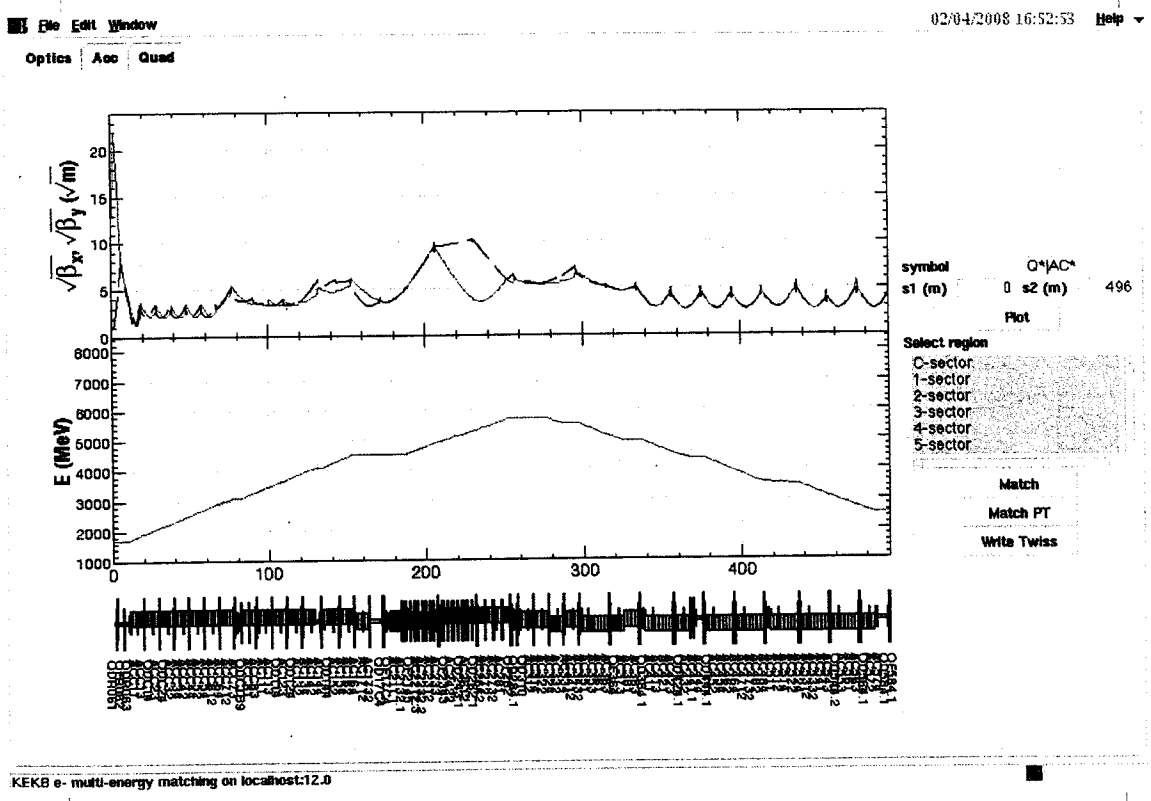
SP564
SP580　水平方向が平らになるように orbit を調整

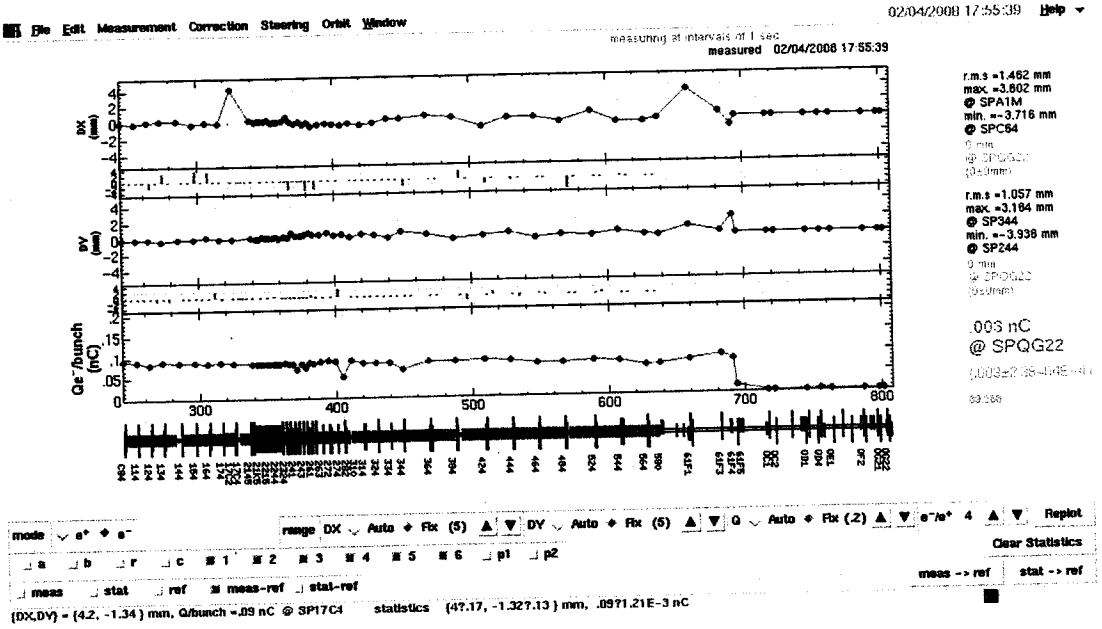


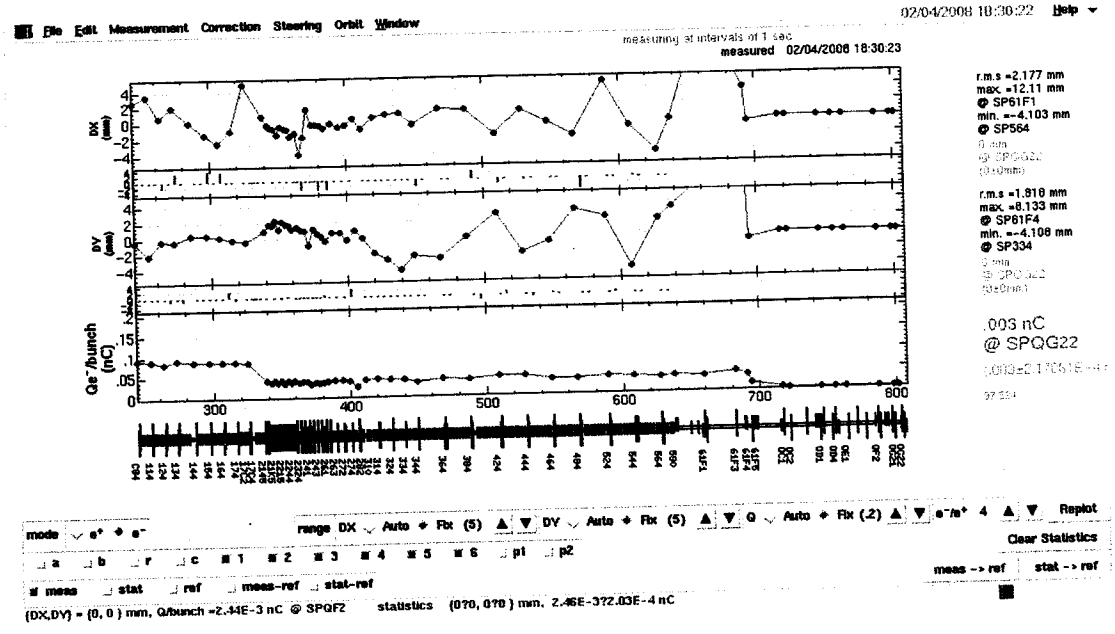
17:00 Pulse ST

17_C1	17_C4	21_k2x	21_k2y
0.325	0.42	0.06	0.0
↓	↓	↓	↓
0.325	0.50	0.22	0.02
↓	↓	↓	↓
0.39	0.58	0.22	0.02

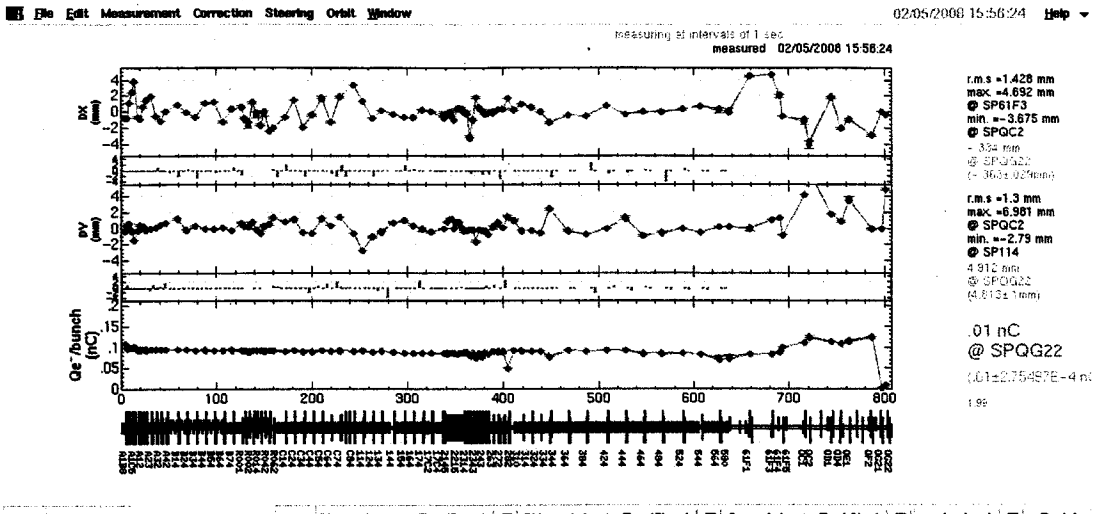
BY_17_C1 0.5 → 2.189 A




File Edit Measurement Correction Steering Orbit Window
02/04/2008 17:55:39 Help
measuring at intervals of 1 sec
measured 02/04/2008 17:55:39
DX (mm)
DY (mm)
Qe⁻/bunch (nC)
r.m.s =1.462 mm
max. =3.802 mm
@ SPA1M
min. =-3.716 mm
@ SPC64
r.m.s =1.057 mm
max. =3.184 mm
@ SP344
min. =-3.938 mm
@ SP244
.003 nC
@ SPQG22
mode e⁺ e⁻
range DX Auto Fix (5) DY Auto Fix (5) Q Auto Fix (.2) e⁻/e⁺ 4
Replot
Clear Statistics
a b r c 1 2 3 4 5 6 p1 p2
meas stat ref meas-ref stat-ref
meas -> ref
stat -> ref
{DX,DY} = {4.2, -1.34 } mm, Q/bunch =.09 nC @ SP17C4
statistics {47.17, -1.327.13 } mm, .09?1.21E-3 nC


File Edit Measurement Correction Steering Orbit Window
02/04/2008 18:30:22 Help
measuring at intervals of 1 sec
measured 02/04/2008 18:30:23
DX (mm)
DY (mm)
Qe⁻/bunch (nC)
r.m.s =2.177 mm
max. =12.11 mm
@ SP61F1
min. =-4.103 mm
@ SP564
r.m.s =1.818 mm
max. =8.133 mm
@ SP61F4
min. =-4.108 mm
@ SP334
.003 nC
@ SPQG22
mode e⁺ e⁻
range DX Auto Fix (5) DY Auto Fix (5) Q Auto Fix (.2) e⁻/e⁺ 4
Replot
Clear Statistics
a b r c 1 2 3 4 5 6 p1 p2
meas stat ref meas-ref stat-ref
meas -> ref
stat -> ref
{DX,DY} = {0, 0 } mm, Q/bunch =2.44E-3 nC @ SPQF2
statistics {0?0, 0?0 } mm, 2.46E-3?2.03E-4 nC

2008.2.5 Target Bump Study



data 4606. all (Multi-Energy 15:56)

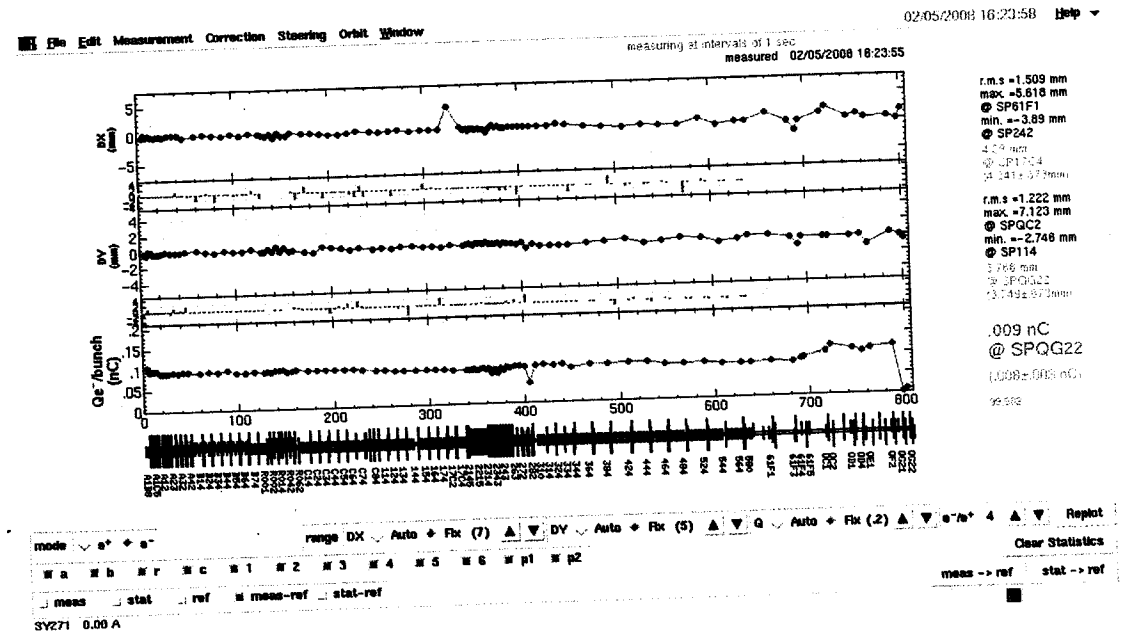
※大西 optics (第1案)

0.5A	−4.7 mm
0.3A	−0.34 mm
0.29A	0.0
0.0 A	−2.19 mm
0.2 A	−0.29

ST①	ST②	ST③	ST④
0.30	0.29	0.21	0.02

X 1704
4.2 mm
21KJ
0.085

16:23 Bunch 設定関係 決定



①	nC
0.38	0.060
0.36	0.048
0.37	0.055
0.38	0.059
0.39	0.062
0.40	0.063
0.41	0.063
0.42	0.066
0.43	0.052

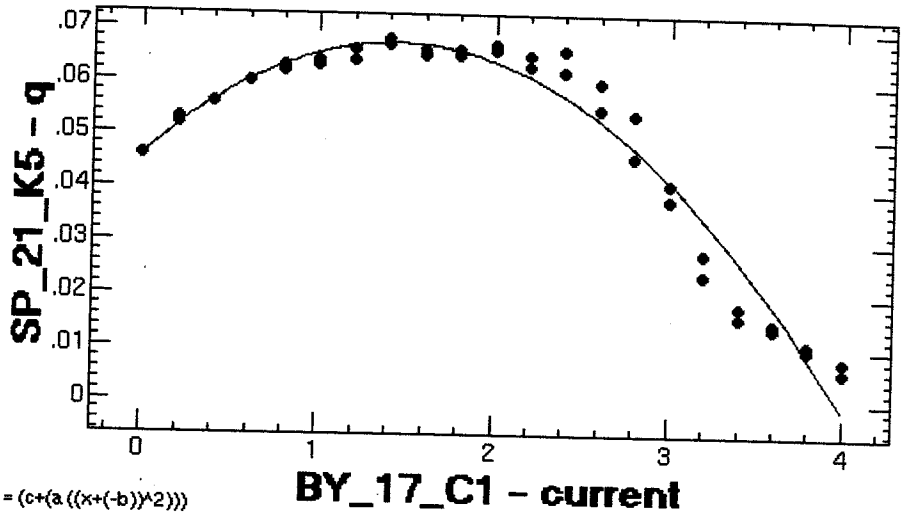
0.40

BY_17_C1 = 0.800 A → 1.400 A
BY_17_C5 = −0.659A → −0.729 A

Q optimized for y-kick
y-kick & Cancel

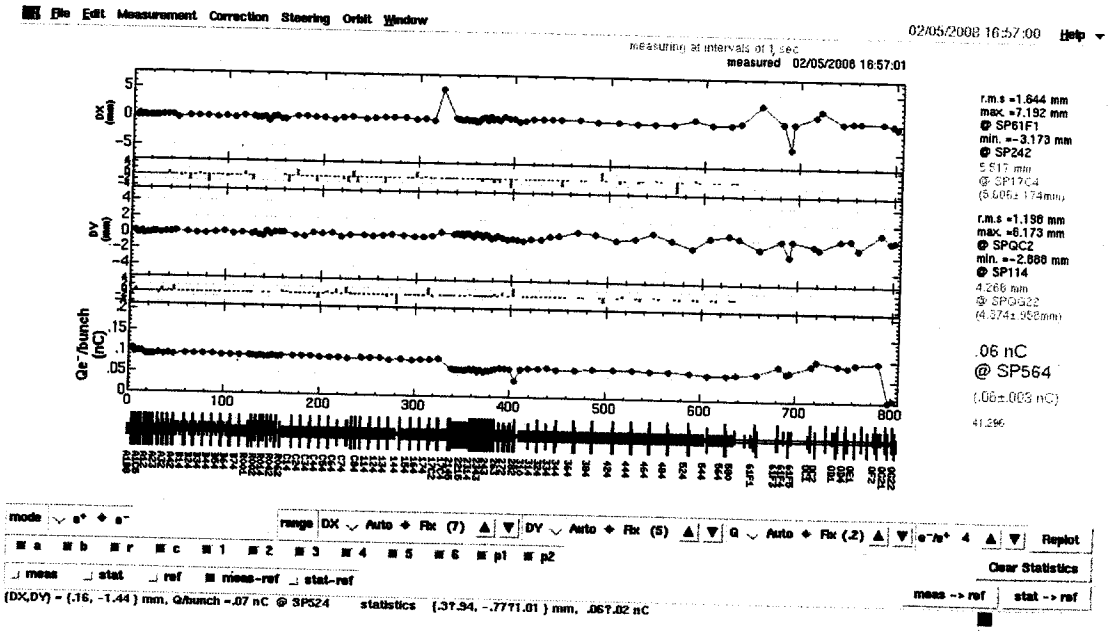
File Edit Window 02/05/2008 16:53:34 Help

ChiSquare = 7.95E-4 Goodness = .46988
a = -.01043 +/- 5.33E-4 b = 1.42881 +/- .04017 c = .06729 +/- 9.81E-4



Function = (c+(a ((x+(-b))^2)))

BY_17_C1vsSP_21_K5 on lcg6:0.0



Volt	Q (21K5)
0.40	0.068
0.36	0.047
0.34	0.054
0.38	0.060
0.39	0.063
0.40	0.067
0.41	0.069
0.42	0.067
0.43	0.063
0.44	0.056

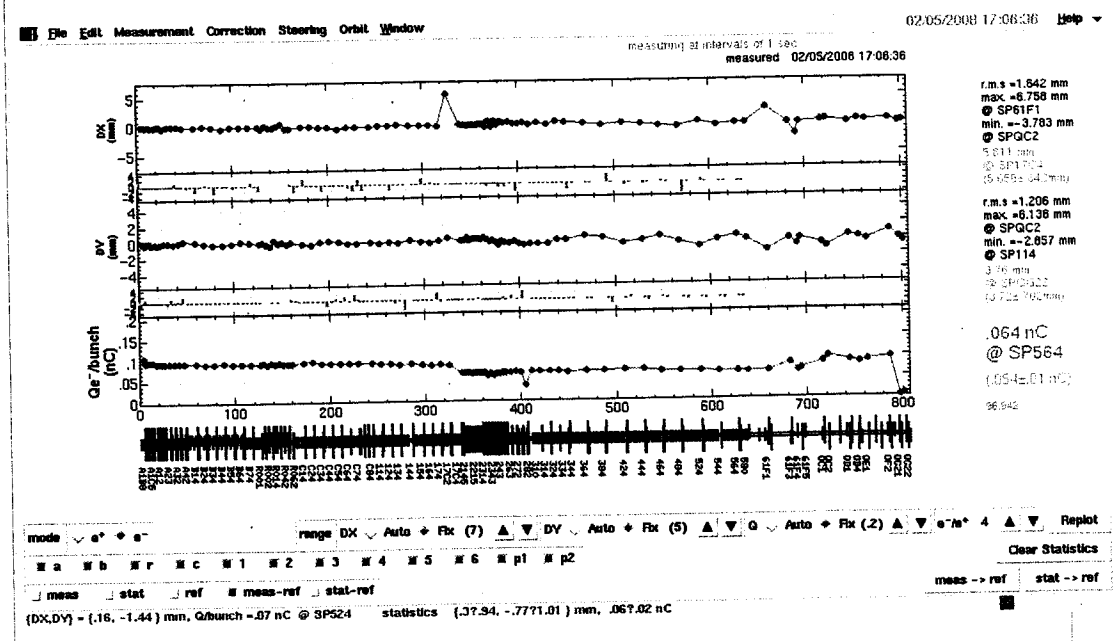
0.41 1=Sec

ST 1	ST2	ST3	ST4
0.41	0.396	0.284	0.0273

Q(21K5) = 0.068nC → 80% の透過率

ターゲット = 0.085nC

⑨ 21K5



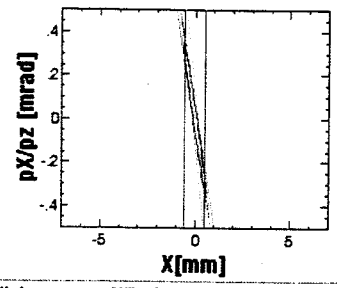
File Edit Window

02/05/2008 15:28:44 Help

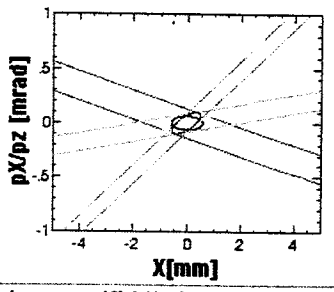
Wire Scan | Optics Calculate | Matching

2.5GeV e beam (Ohnishi optics #1) (No Bump)

X phase space at Wire A



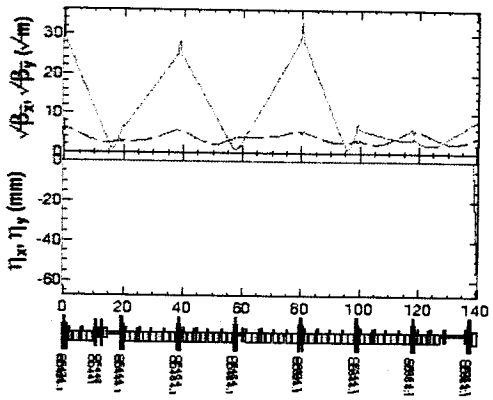
X phase space at Matching Point



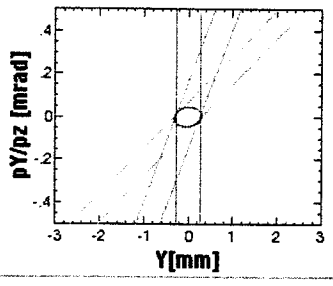
Results of Measurement

β_x @AC574+1 [m] :	7.802	β_y @AC574+1 [m] :	9.33
α_x @AC574+1 :	-1.029	α_y @AC574+1 :	78
ε_x [m] :	3.7109E-8	ε_y [m] :	1.3639E-
$\gamma\varepsilon_x$ [π.mm.mrad] :	161.551	$\gamma\varepsilon_y$ [π.mm.mrad] :	66.72
Bmag x :	1.665	Bmag y :	1.31
εBmag x :	4.6225E-8	εBmag y :	1.4171E-
γεBmag x :	238.383	γεBmag y :	69.33

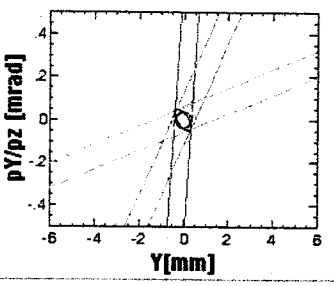
Optics Plot



Y phase space at Wire A



Y phase space at Matching Point



Wire Selection

3-wire:ABC 3-wire:ABD 3-wire:ACD ◆ 3-wire:BCD 4-wire:ABCD

Err(meas), nσ n: 0 Err(opt) (%): 0

"Calculate Optics" Save All Parameters

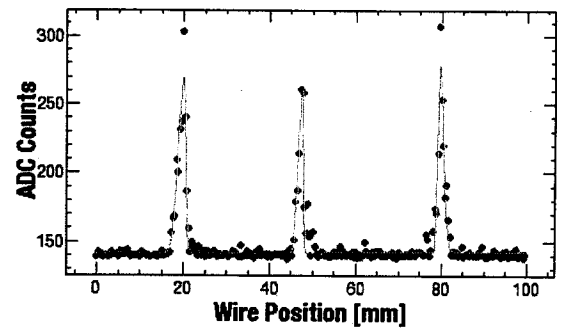
File Edit Control Window

02/05/2008 15:28:52 Help

Wire A

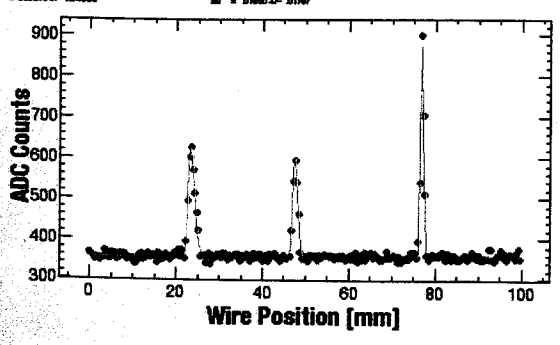
File: File Pref ReFit 902

Wire C



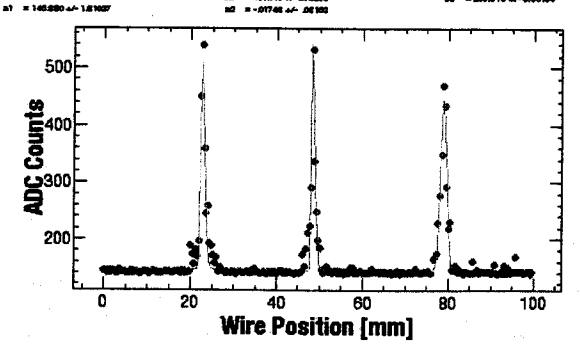
File: WS2008_2_5_15_26_10.datC File Pref ReFit 779.619140625 V 764

Wire B



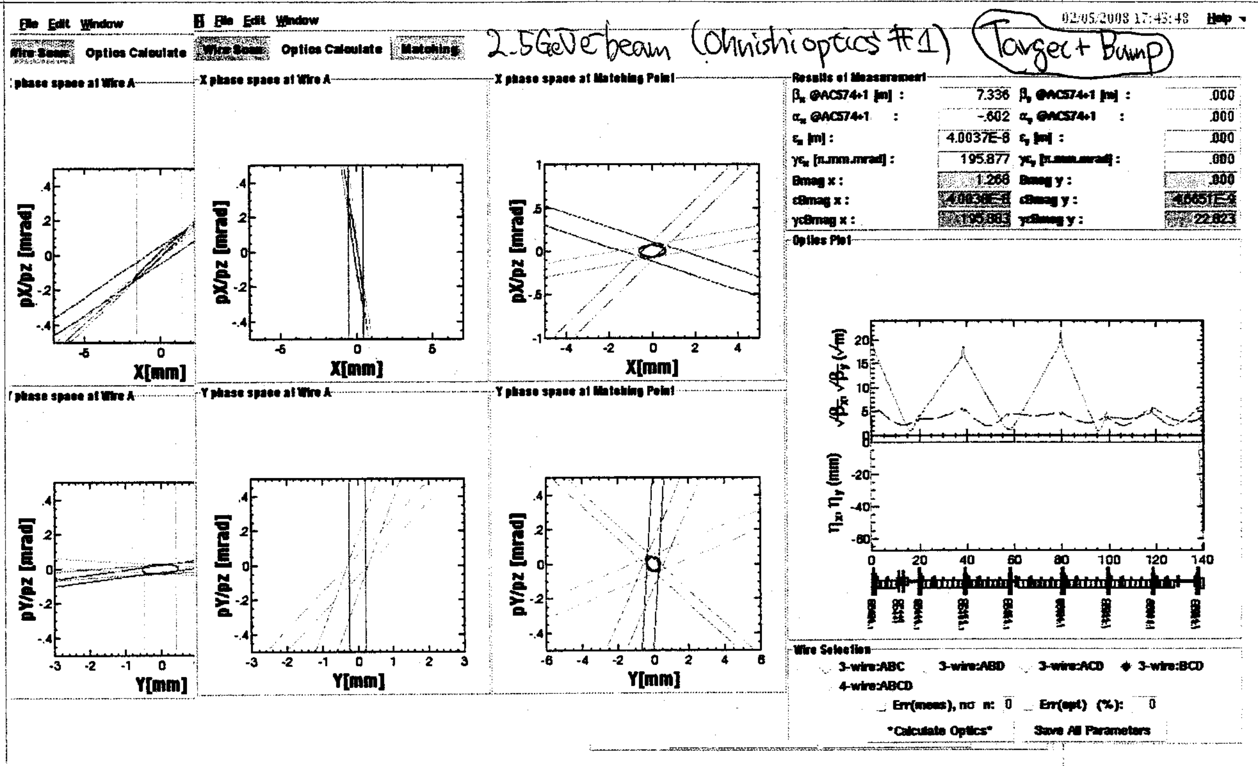
File: WS2008_2_5_15_27_29.datB File Pref ReFit 619.697265625 V 813

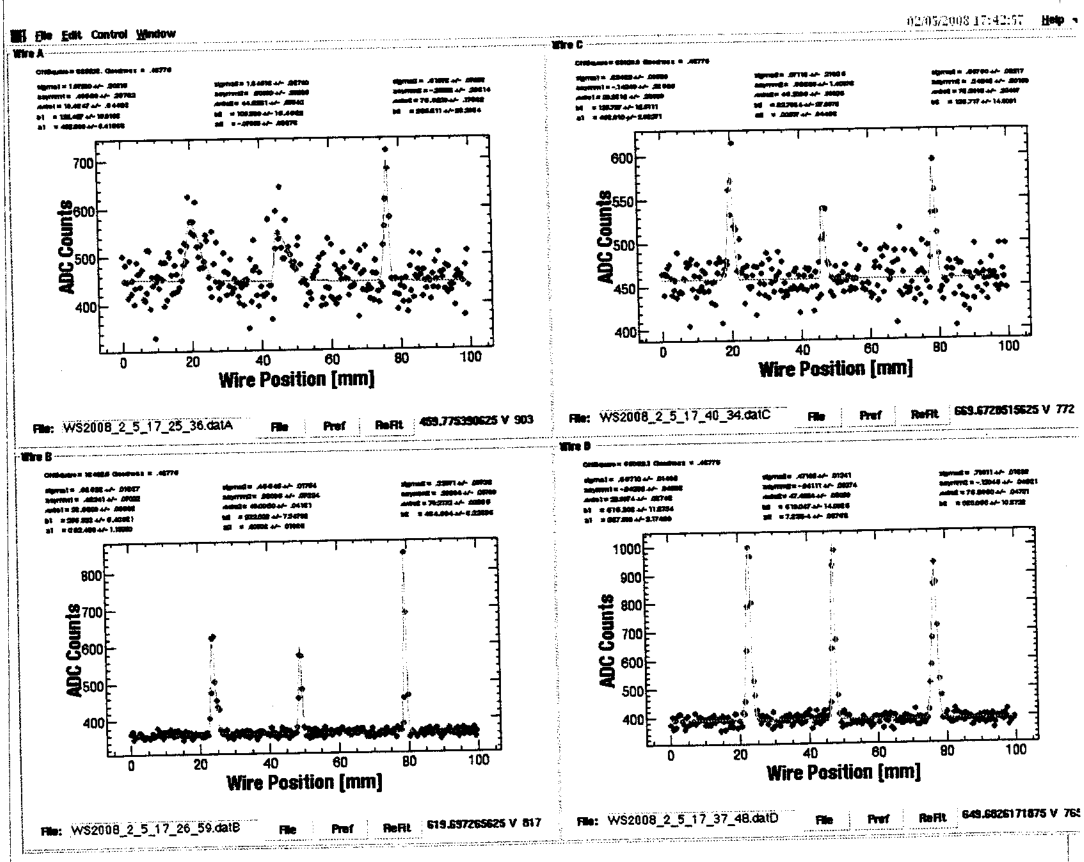
Wire D



File: WS2008_2_5_15_24_58.datD File Pref ReFit 869.5654296875 V 760

2.5GeV e beam (Ohnishi optics #1) (Target + Bump)





・ O Inc ビームでは Target を入れて Bump を立てても Emittance はあまり変わらない

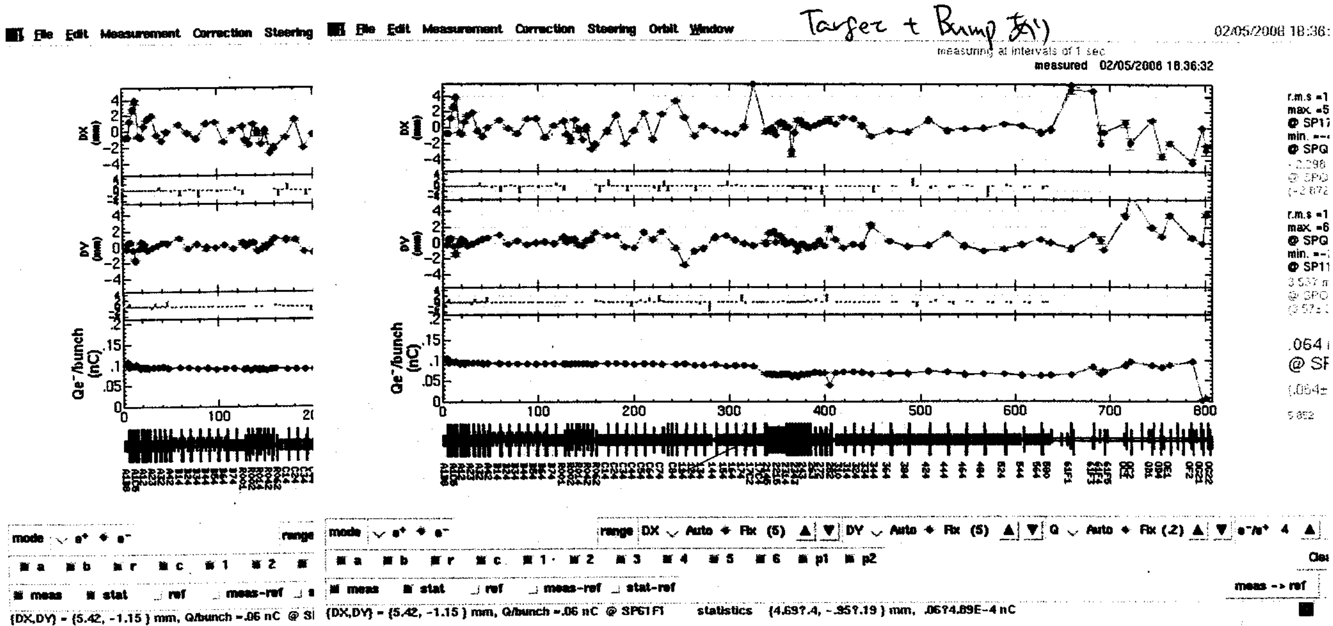
17:41 Q=0.1 → 1.0nC へ変更 (~~3rd GPのBias等変える必要あり~~)
↳ Linac modeで KEKB e⁻ ビームを出す

PFリング側. Top-upモードのとき ライナックモードでビーム出せない!

1nC あきらめて. 0.1nCで 次のoptics セットに進む

18:37 まず optics #1 での状態確認

Target + Bump あり



18:51 次の Ohnishi optics #2 へ進む

BX_17 C5 −0.669 → −0.329
BY " −0.728 → −0.648
BX_23_4 −0.499 → −2.599

19:03 やり直しの optics #2