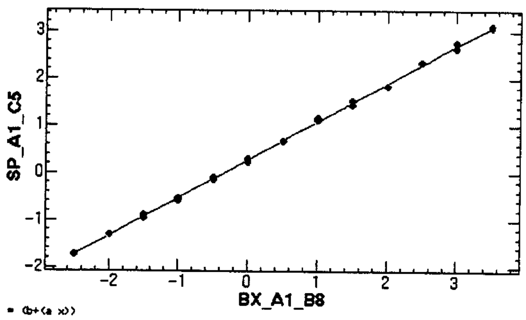
Delay1(sec) 1.715 1.715
Delay2(sec) 1.980 2.050

Edit Window 04/23/2002 11:04:09 Help

e = .03882 Goodness = .46160
743 +/- .00422 b = .27759 +/- .00816

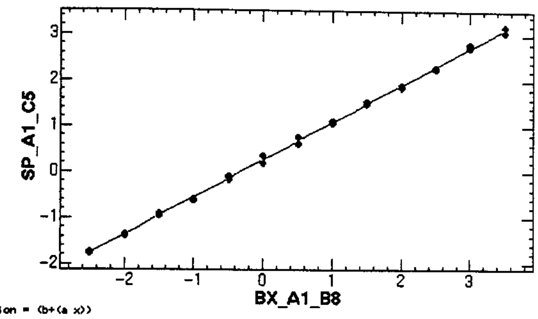


= (b+(a x))

Energy at A1_B8 : 23.717268223637644 MeV

File Edit Window 04/23/2002 11:10:29 Help

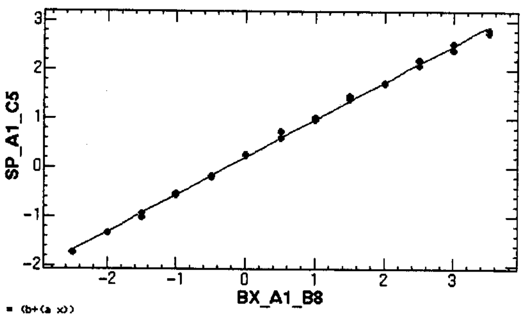
ChiSquare = .05560 Goodness = .46160
a = .81714 +/- .00505 b = .26777 +/- .00977



Function = (b+(a x))

Energy at A1_B8 : 23.435314685314685 MeV

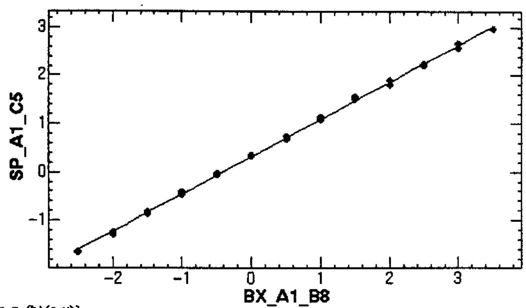
e = .08453 Goodness = .46160
206 +/- .00622 b = .20372 +/- .01205



= (b+(a x))

Energy at A1_B8 : 25.102815450767422 MeV

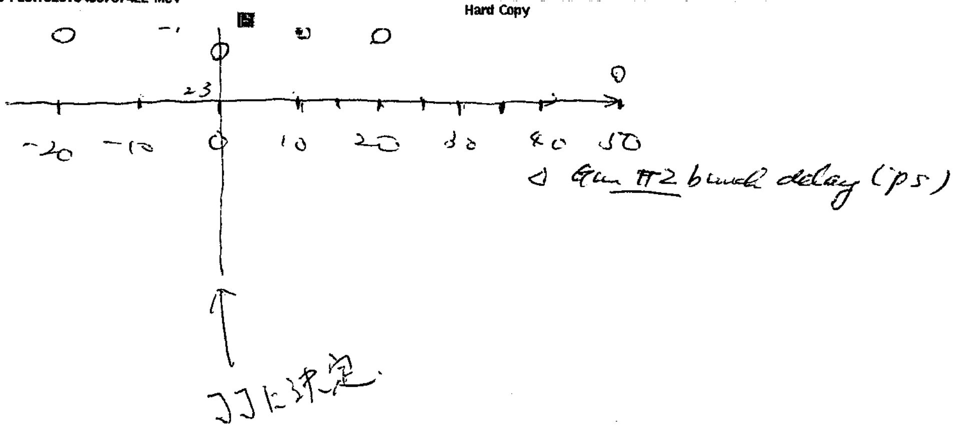
ChiSquare = .04228 Goodness = .46160
a = .77081 +/- .00440 b = .31705 +/- .00852



Function = (b+(a x))

Energy at A1_B8 : 24.843892563868606 MeV

Hard Copy

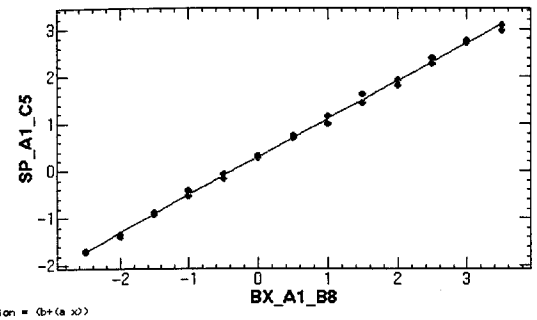


1.715
2.016

A1

File Edit Window 04/23/2002 11:18:30 Help

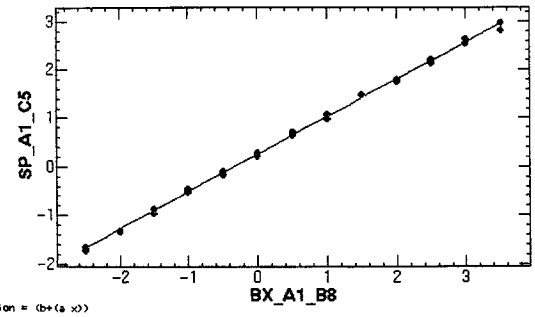
ChiSquare = .89669 Goodness = .46160
a = .80258 +/- .80665 b = .29590 +/- .81288



Function = (b+(a x))

Energy at A1_B8 : 23.860477853084129 MeV

ChiSquare = .87019 Goodness = .46160
a = .76996 +/- .80567 b = .25687 +/- .81098



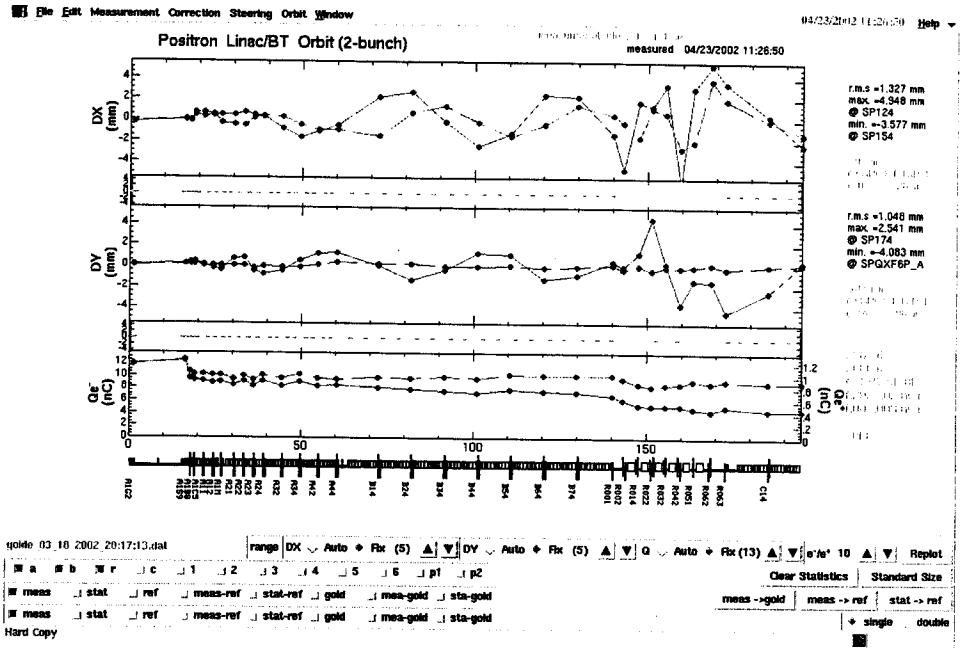
Function = (b+(a x))

Energy at A1_B8 : 24.871372196413404 MeV

Hard Copy

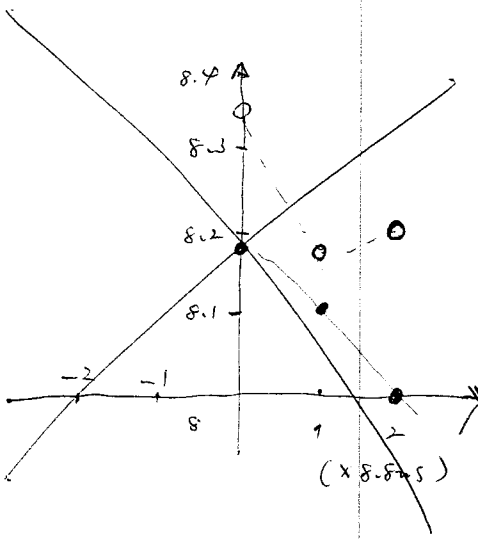
A1 Trig. Delay

49067 nsec でスタート



Trig. Delay 49067 nsec

	16進 10進 DAC	ADC
ヒーター電圧		9.6V
◇ ヒーター電流	084D 5.10A	5.16A
◇ バイアス電圧	02F0 144.4V	92.7V
◇ DELAY－1	08D9 1.71ns	0.85ns
◇ DELAY－2	0A52 2.00ns	1.09ns
◇ パルス電圧－1	05A0 0.41kV	0.35kV
◆ パルス電圧－2	0740 0.41kV	0.39kV



KL_A1_RF

[redacted] timing

74

933[redacted]

① [redacted] ns.

{ 1st 8.1849.
{ 2nd 8.35x5

② base + 8.8ns

{ 1st [redacted] 7.962
{ 2nd [redacted] 8.1288.

③ base + 26ns

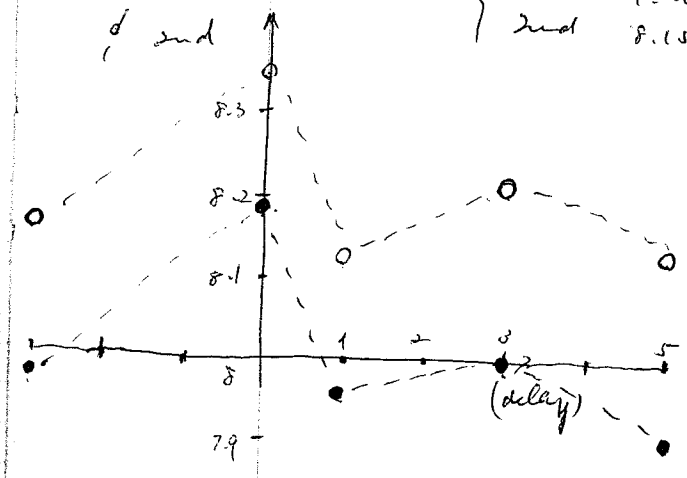
{ 1st [redacted] 7.99
{ 2nd [redacted] 8.216

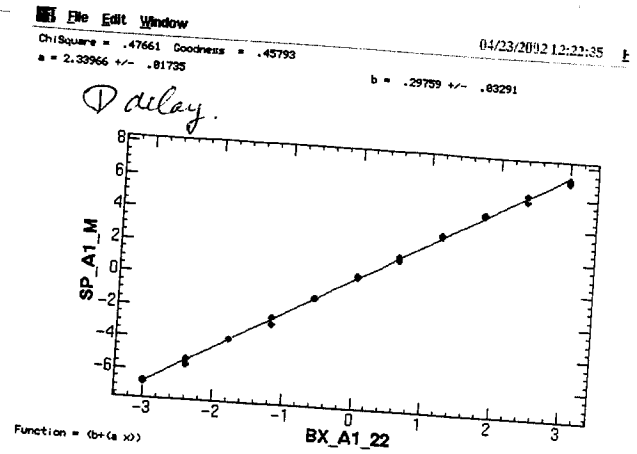
④ base + 43 ns
{ 1st 7.90
{ 2nd 8.128.

⑤ base − 27ns

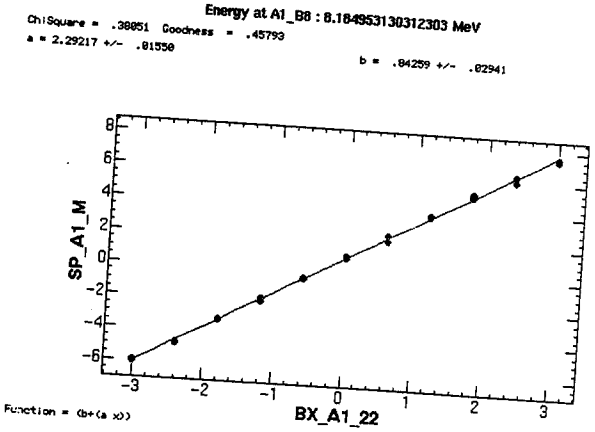
{ 1st 7.967
{ 2nd 8.158.

⑥ base − 62 ns
{ 1st 8.[redacted]15
{ 2nd 11.3208.





Energy at A1_B8 : 8.184953130312303 MeV



Hard Copy

Energy at A1_B8 : 8.354540827455827 MeV

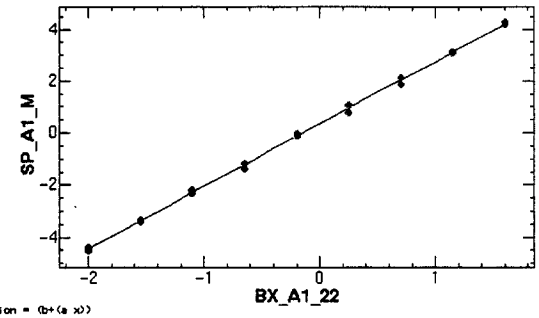
159.
0.[redacted]5 x

16.6x
16.7.

File Edit Window 04/23/2002 12:38:08 Help

ChiSquare = .14974 Goodness = .45296
a = 2.40582 +/- .01963 b = .35211 +/- .02314

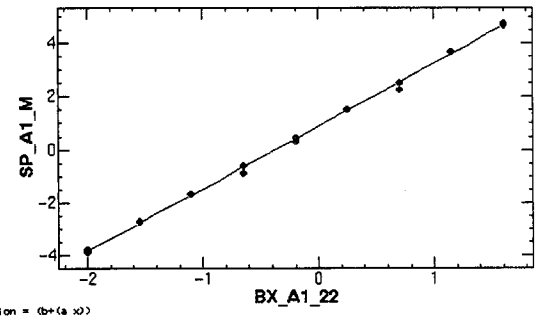
Delay ②



Function = (b+(a x))

Energy at A1_B8 : 7.962516651138436 MeV

ChiSquare = .17648 Goodness = .45296
a = 2.35588 +/- .02130 b = .88877 +/- .02511

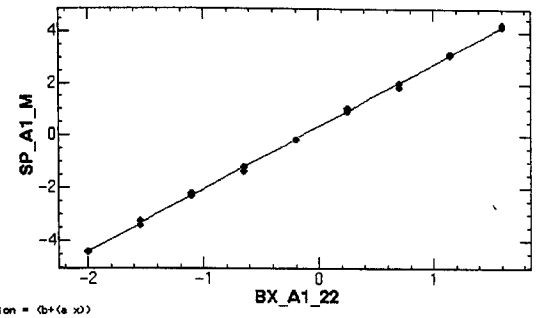


Function = (b+(a x))

File Edit Window 04/23/2002 12:43:38 Help

ChiSquare = .10127 Goodness = .45296
a = 2.39620 +/- .01614 b = .35107 +/- .01983

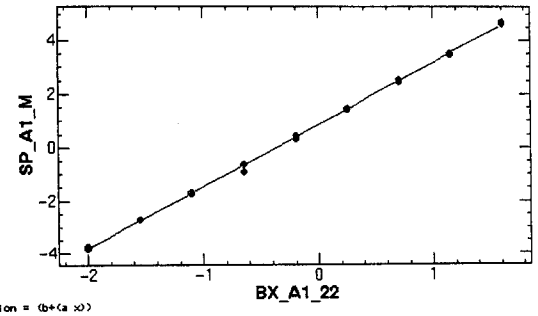
Delay ③



Function = (b+(a x))

Energy at A1_B8 : 7.99186802967657 MeV

ChiSquare = .18426 Goodness = .45296
a = 2.33857 +/- .01638 b = .85828 +/- .01931

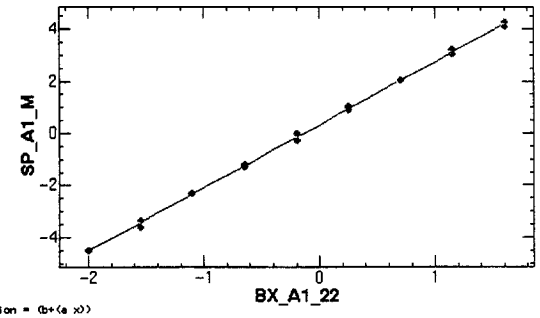


Function = (b+(a x))

File Edit Window 04/23/2002 12:47:01 Help

ChiSquare = .11323 Goodness = .45296
a = 2.42356 +/- .01707 b = .31804 +/- .02012

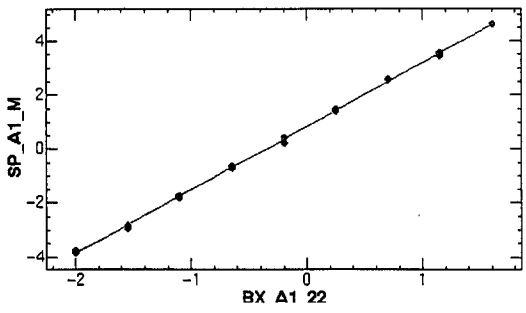
Delay ④



Function = (b+(a x))

Energy at A1_B8 : 7.901613790573995 MeV

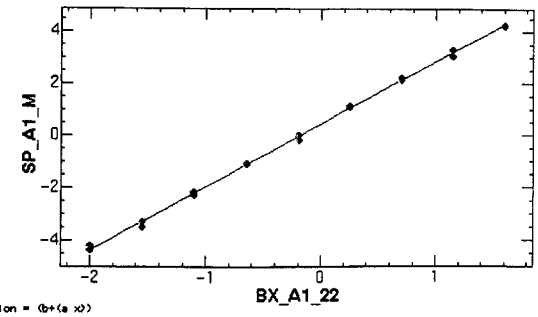
ChiSquare = .08251 Goodness = .45296
a = 2.35602 +/- .01457 b = .83737 +/- .01717



File Edit Window 04/23/2002 12:49:59 Help

ChiSquare = .16899 Goodness = .45296
a = 2.40363 +/- .02085 b = .42917 +/- .02458

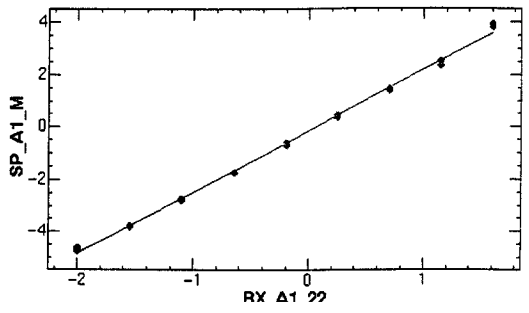
Delay ⑤



Function = (b+(a x))

Energy at A1_B8 : 7.967117630743628 MeV

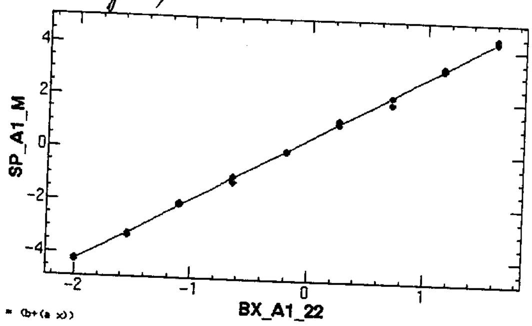
ChiSquare = .28705 Goodness = .45296
a = 2.34731 +/- .02721 b = -.15287 +/- .03288



File Edit Window 04/23/2002 12:57:05 Help

ChiSquare = .14585 Goodness = .45296
a = 2.30915 +/- .01932 b = .49200 +/- .02277

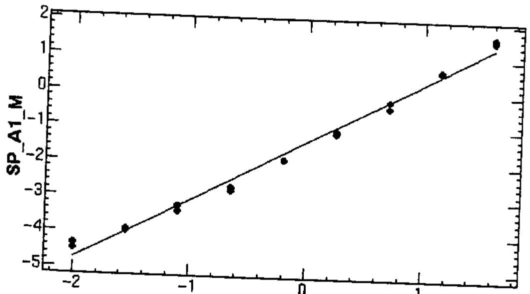
Delay ⑥



Function = (b+(a x))

Energy at A1_B8 : 8.015409180399023 MeV

ChiSquare = .71113 Goodness = .45296
a = 1.69157 +/- .04277 b = -1.3668 +/- .05042



Function = (b+(a x))

Hard Copy

Energy at A1_B8 : 11.320816684000216 MeV

13:58 overall_A によるエネルギー調整.

49067 ns. (三値).

±70ns を振ると A→Bエネルギーへの Current Loss の
状況は変わらない

14:28 Gun Delay 2 2.00 → ~~2.25~~ 2.225 ns に set

15:08 Overall-B 0 → 21 ns → 23 ns

Gun delay 2 2.225 → 三値ではok

2nd の Area 取りかかる!

Two-bunch 加速
k.furukawa, oct.10.2001.

(1) A1 Streak Camera を使用して、2 つの Bunch の Longitudinal Profile を確認する。

(2.1) Analyzer ST 2-bunch A1 (tkstana-ab) を使用して、Buncher Exit での Energy を測定する (BX_A1_B8 vs. SP_A1_C5, from -3A to 2A with 0.5A step)。

(2.2) Gun Grid Pulser の Timing を調整して、2 つの Bunch の Buncher Exit Energy を一致させる。

(2.3) 軌道を補正する。

(2.4) A1 Streak Camera を使用して、2 つの Bunch の Longitudinal Profile を確認する。

(3.1) Analyzer ST 2-bunch A1 (tkstana-ab) を使用して、A1 Unit Exit での Energy を測定する (BX_A1_22 vs. SP_A1_M)。

(3.2) KL_A1 Sub-booster の rf Timing を調整して、2 つの Bunch の A1 Unit Exit での Energy を一致させる。

(3.3) 軌道を補正する。

(3.4) A1 Streak Camera を使用して、2 つの Bunch の Longitudinal Profile を確認する。

(4.1) BM_A4_A と SC_A4_A1, SC_A4_A2 を使用して、2 つの Bunch の A4 Unit Exit での Energy を確認する。Steering Coil で Beam を Kick して、Betatron 波長ので Energy を確認しても良い。

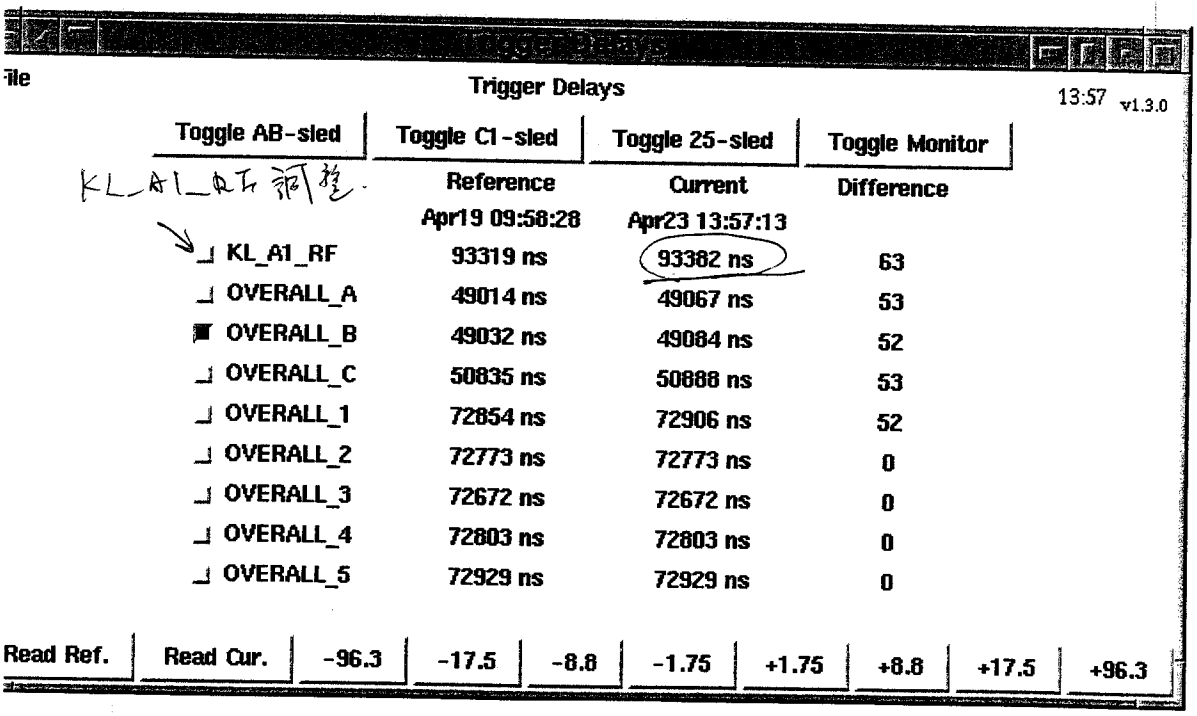
(4.2) A Sector SLED Timing (Overall_A) を調整して (例えば Trigger Beam tktrig-beam) 、2 つの Bunch の A4 Unit Exit での Energy を一致させる。

(4.3) 軌道を補正する。

(5.1) SC_R0_31, SP_R0_32 を使用して、2 つの Bunch の B8 Unit Exit での Energy を確認する。

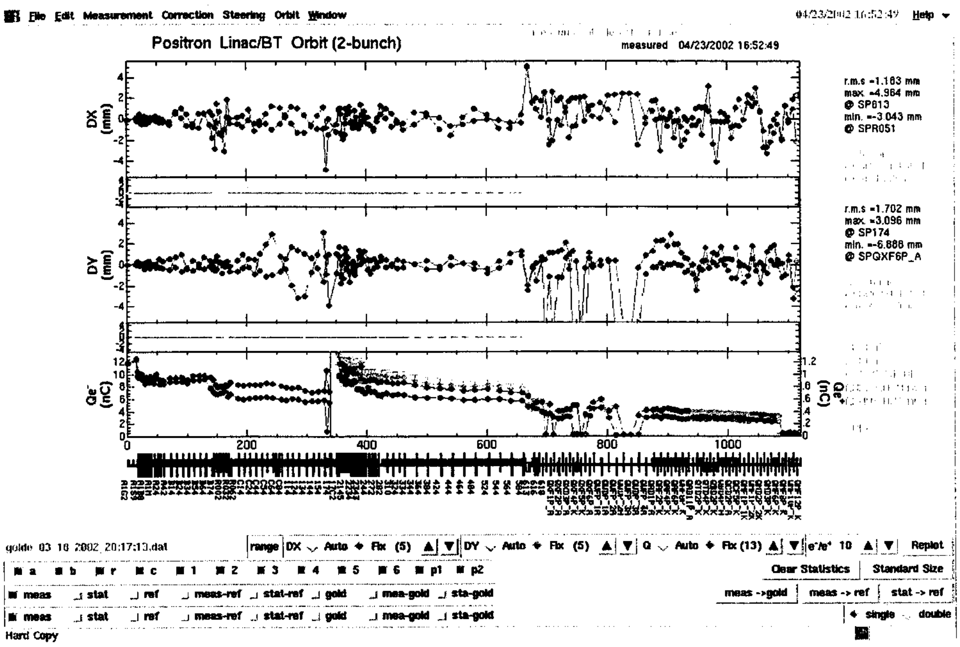
(5.2) B Sector SLED Timing (Overall_B) を調整して、2 つの Bunch の B8 Unit Exit での Energy を一致させる。

(5.3) 軌道を補正する。



16:53 overall_c 50888ns

±100ns 振ったが 合わず [illegible] → Δt = 35ns → +61ns



— overall_c 補正前

overall_1 72906

+44ns ok.

File | Trigger Delays | 17:46 v1.3.0

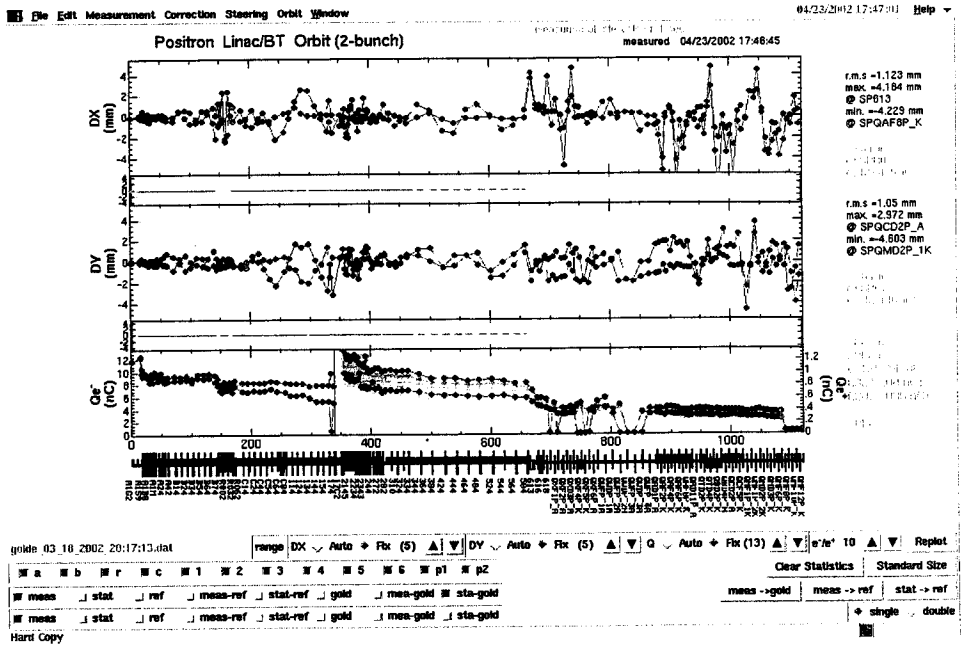
Toggle AB-sled | Toggle C1-sled | Toggle 25-sled | Toggle Monitor

	Reference Apr23 15:06:15	Current Apr23 17:46:28	Difference
KL_A1_RF	93367 ns	93367 ns	0
OVERALL_A	49041 ns	49041 ns	0
OVERALL_B	49084 ns	49107 ns	23
OVERALL_C	50888 ns	50949 ns	61
OVERALL_1	72906 ns	72950 ns	44
OVERALL_2	72805 ns	72805 ns	0
OVERALL_3	72705 ns	72705 ns	0
OVERALL_4	72836 ns	72836 ns	0
OVERALL_5	72966 ns	72966 ns	0

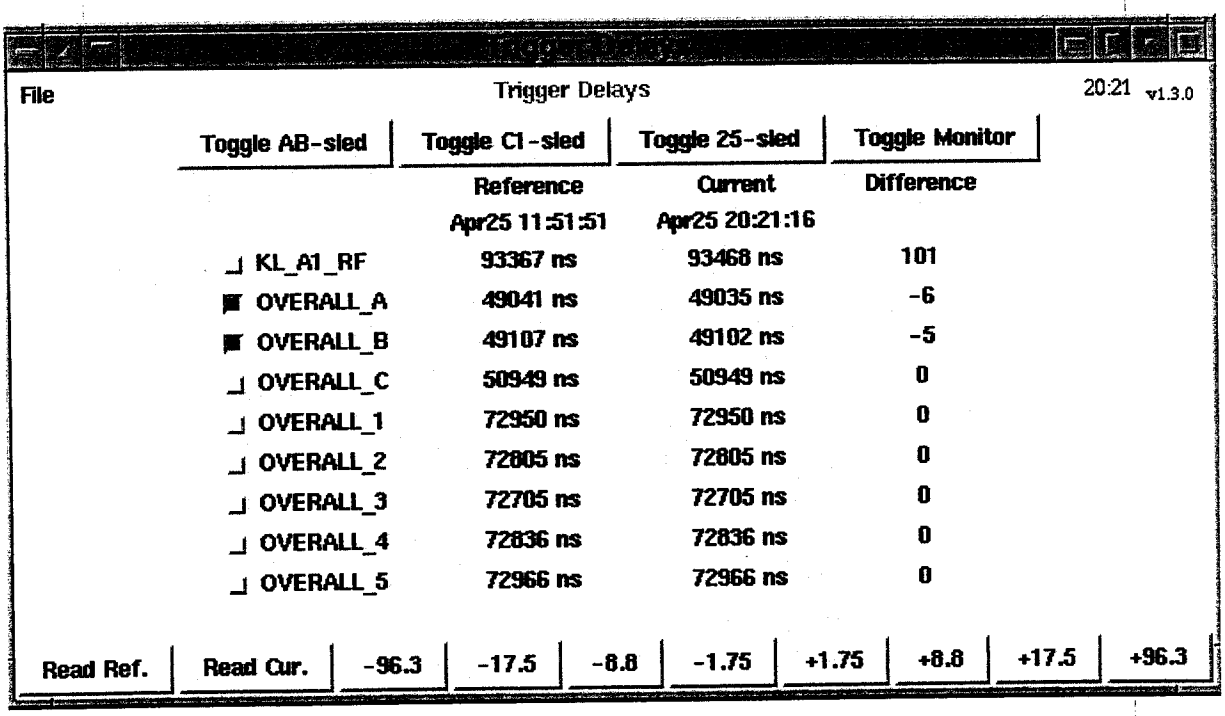
Read Ref. | Read Cur. | -96.3 | -17.5 | -8.8 | -1.75 | +1.75 | +8.8 | +17.5 | +96.3

軌道補正後

17:05



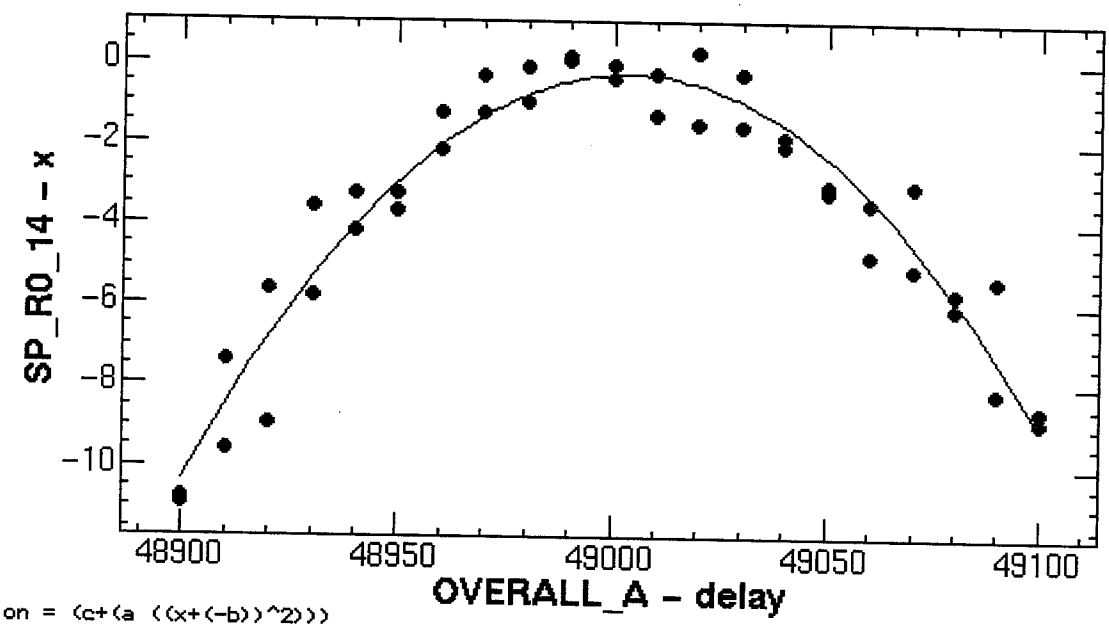
2002.4.25
20:21



File Edit Window 04/26/2002 10:54:23 Hel

ChiSquare = 30.8109 Goodness = .46988

a = -9.4E-4 +/- 4.20E-5 b = 49003.4 +/- 1.22012 c = -.30268 +/- .20589

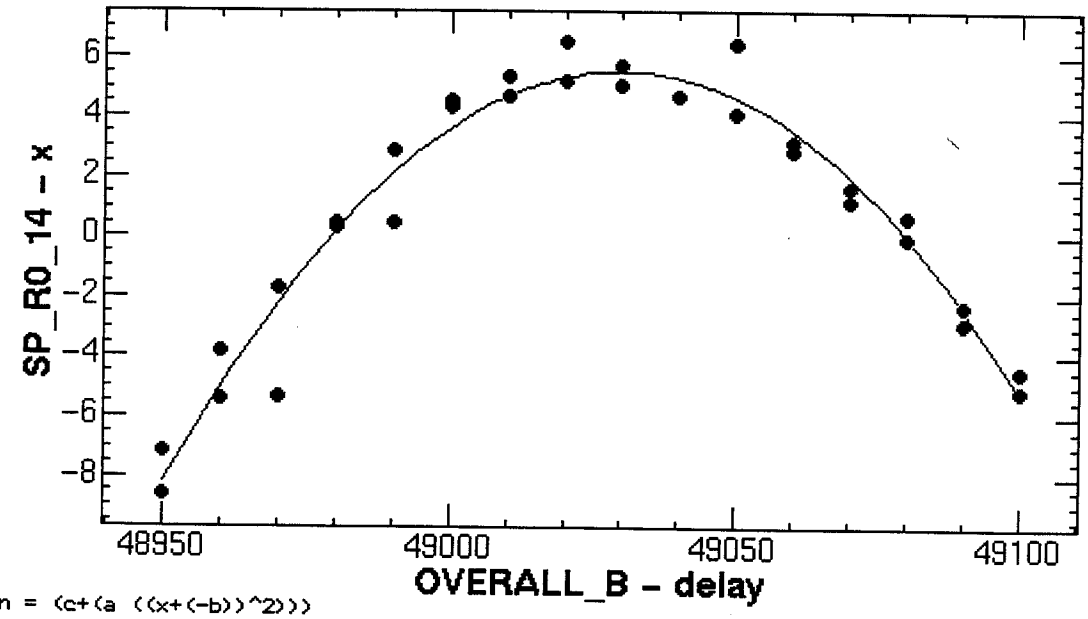


Function = (c+(a ((x+(-b))^2)))

File Edit Window 04/26/2002 11:11:13 Hel

ChiSquare = 26.6447 Goodness = .46507

a = -.00216 +/- 8.97E-5 b = 49029.6 +/- .87294 c = 5.50898 +/- .25414



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