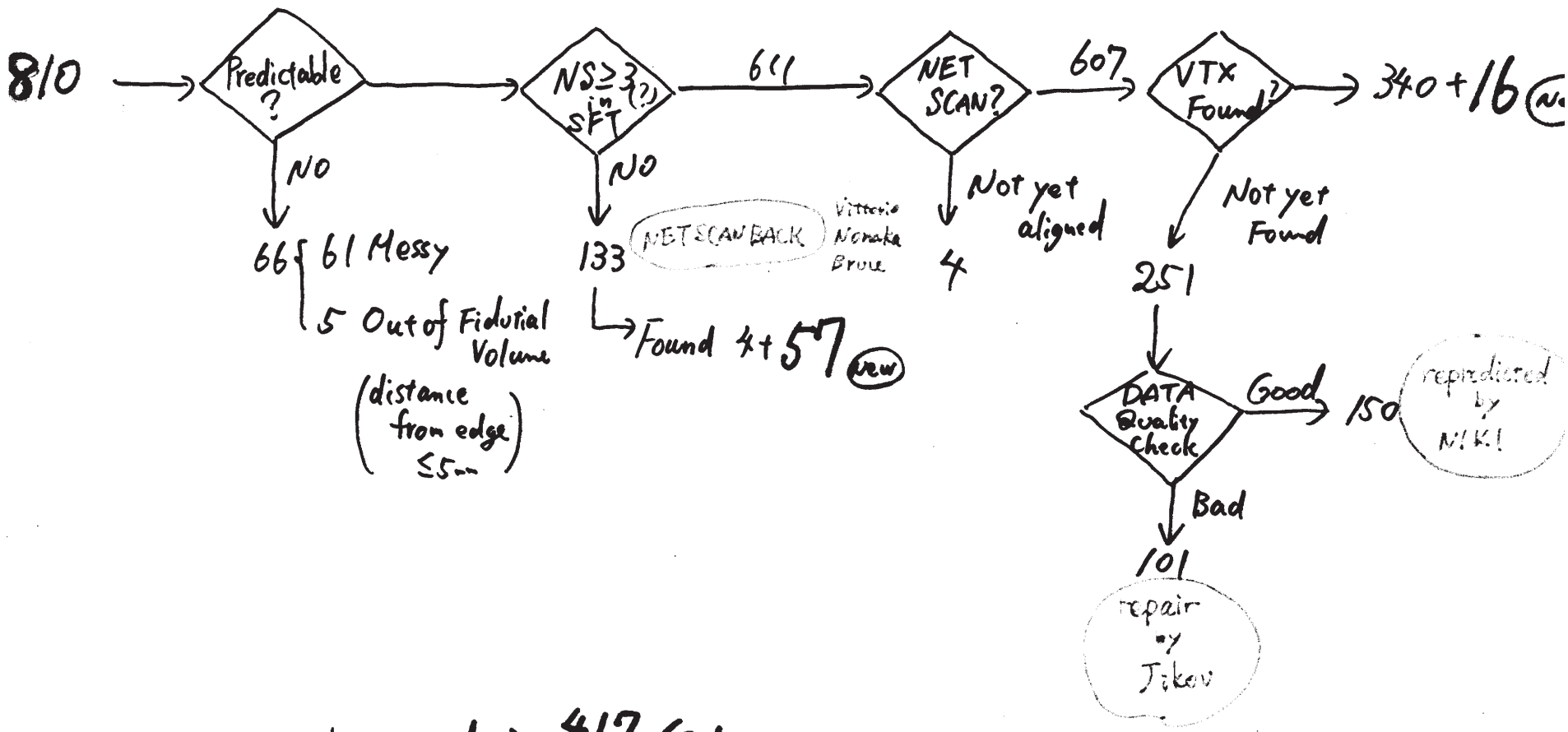
# DONUT STATUS

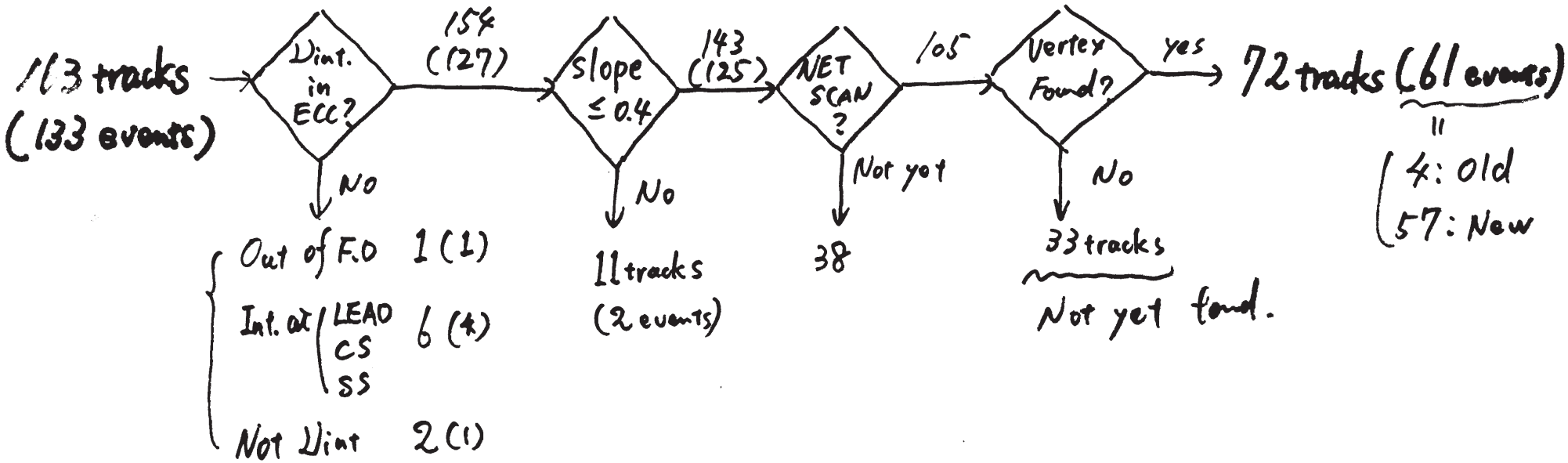
2002/7/25




Located : 417/810

Now located : 73 → to decay search

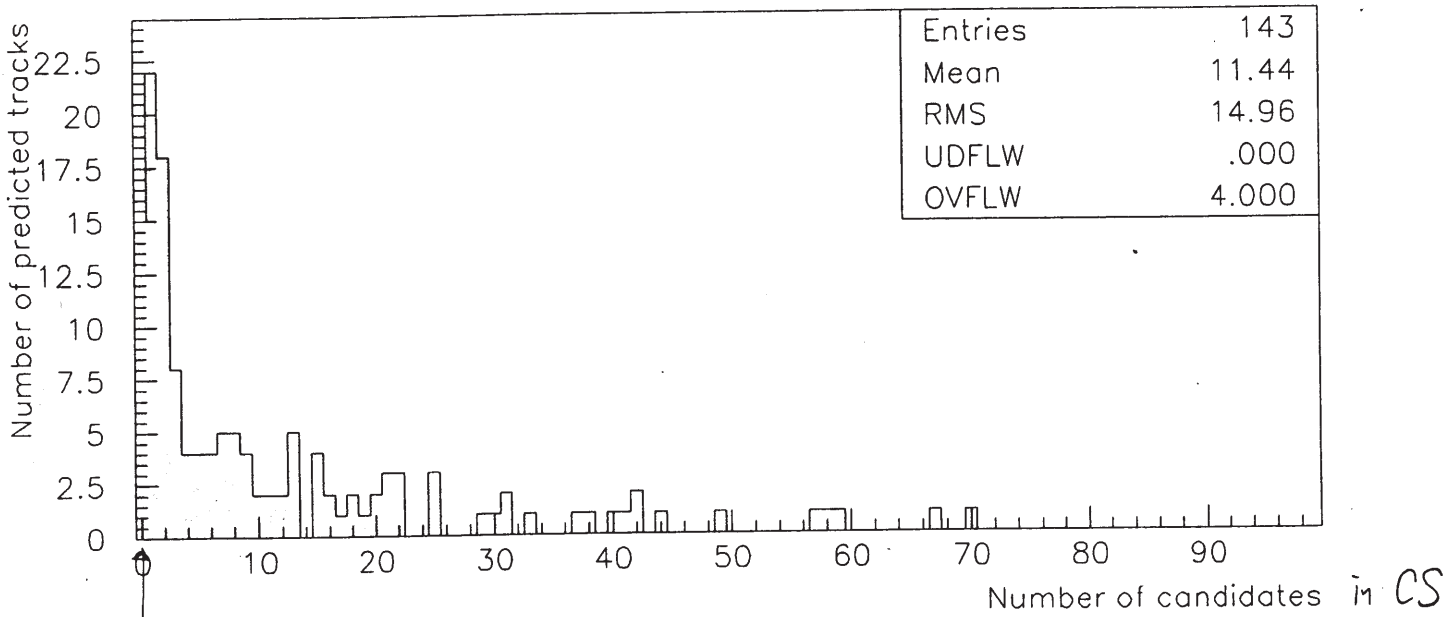
# DONUT NETSCAN BACK LOCATION




Reason for not yet found events.

33 tracks —
- Bad Prediction : 19
- Messy events : 2
- No candidate in CS : 4 (DUST on the surface : 3 → should be searched at SS. ; ??? : 1 → Tracking inefficiency)
- Not connected to SS : 2 – Alignment good, but not connected → Tracking inefficiency
- Bad alignment in ECC : 6 – Big local distortion.

Number of candidates in CS




No candidates 15

→ CS damage 3

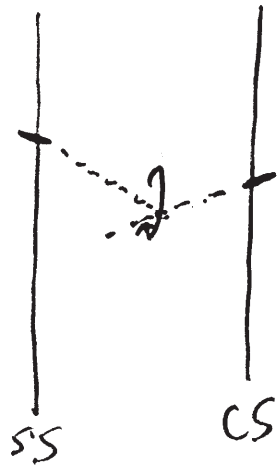
Bad Prediction 11

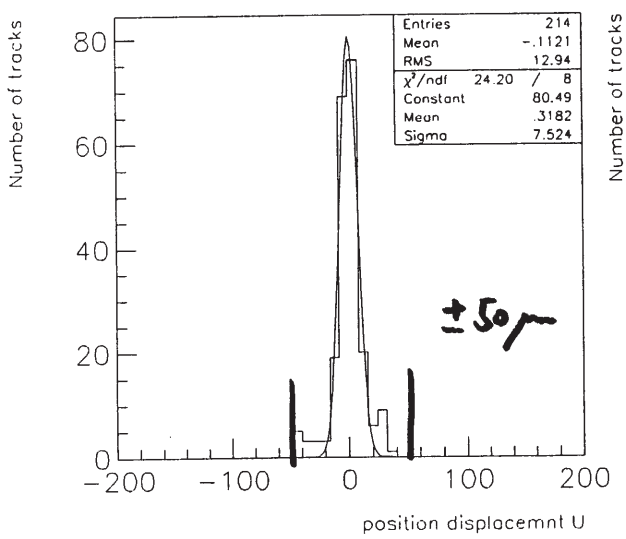
??? 1

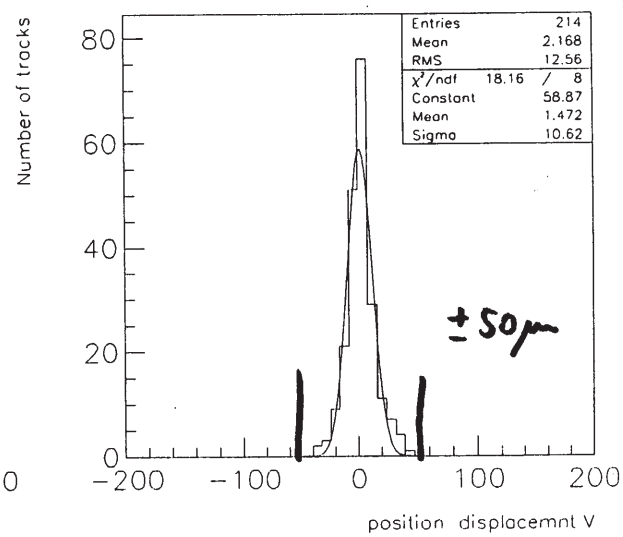
# CS−SS connection

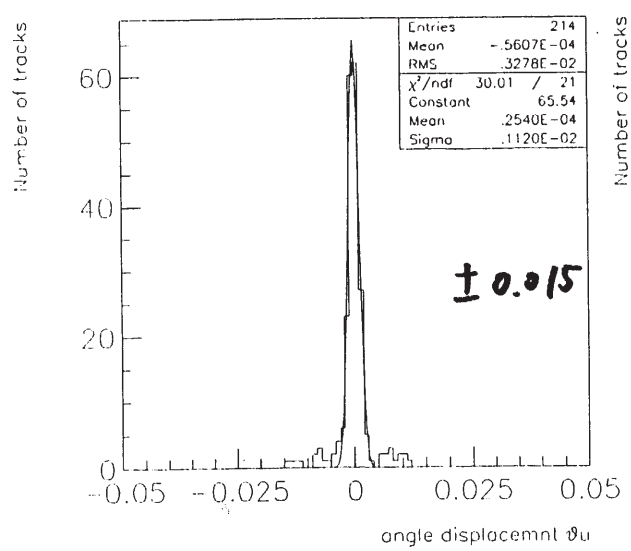
EXP. = e872
RUN = 3186
EVENT = 06199
Version= 30201
MOD = 731
CS−period = 11
***emulsion type***

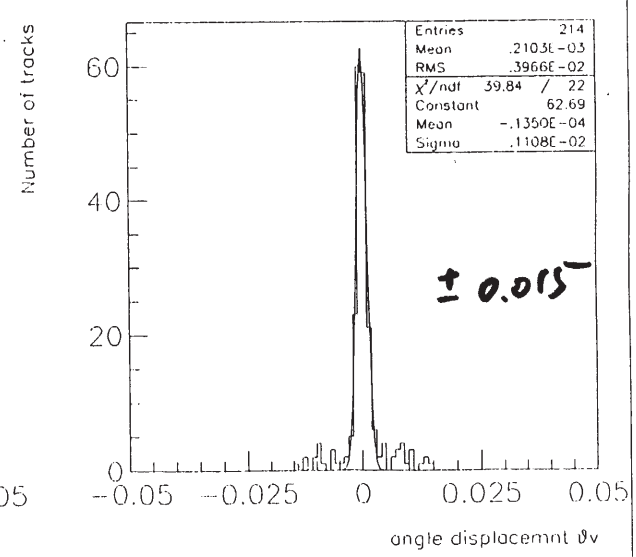
cs−ss



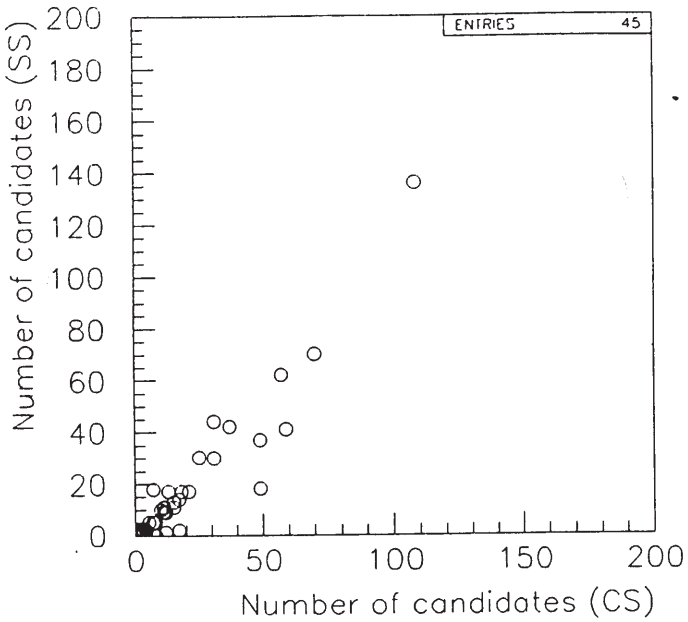



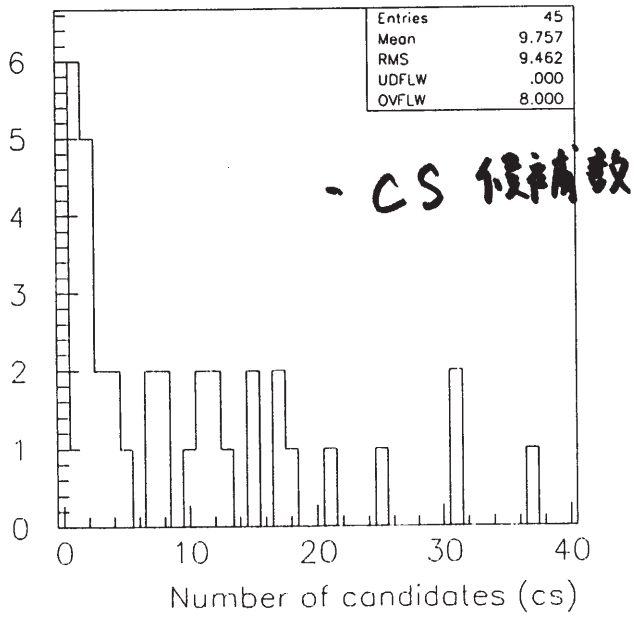



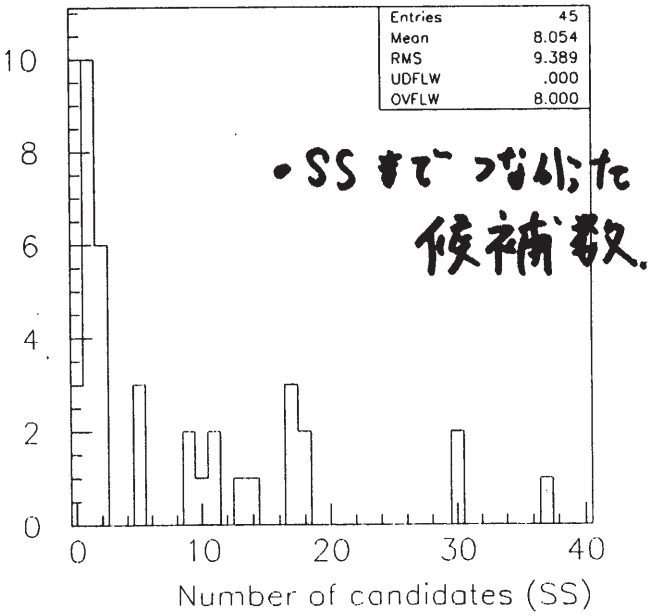



# CS-SS connection

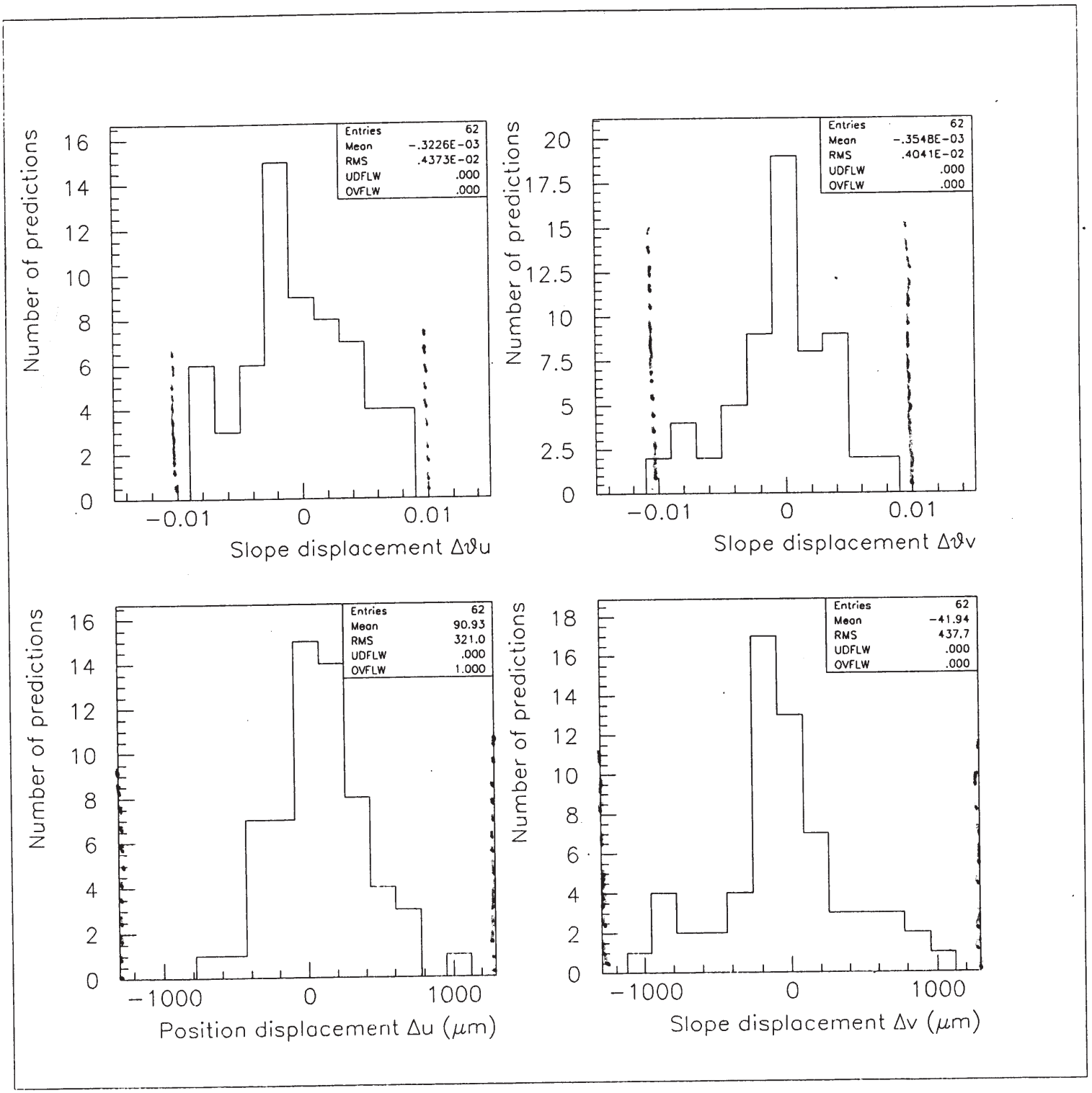


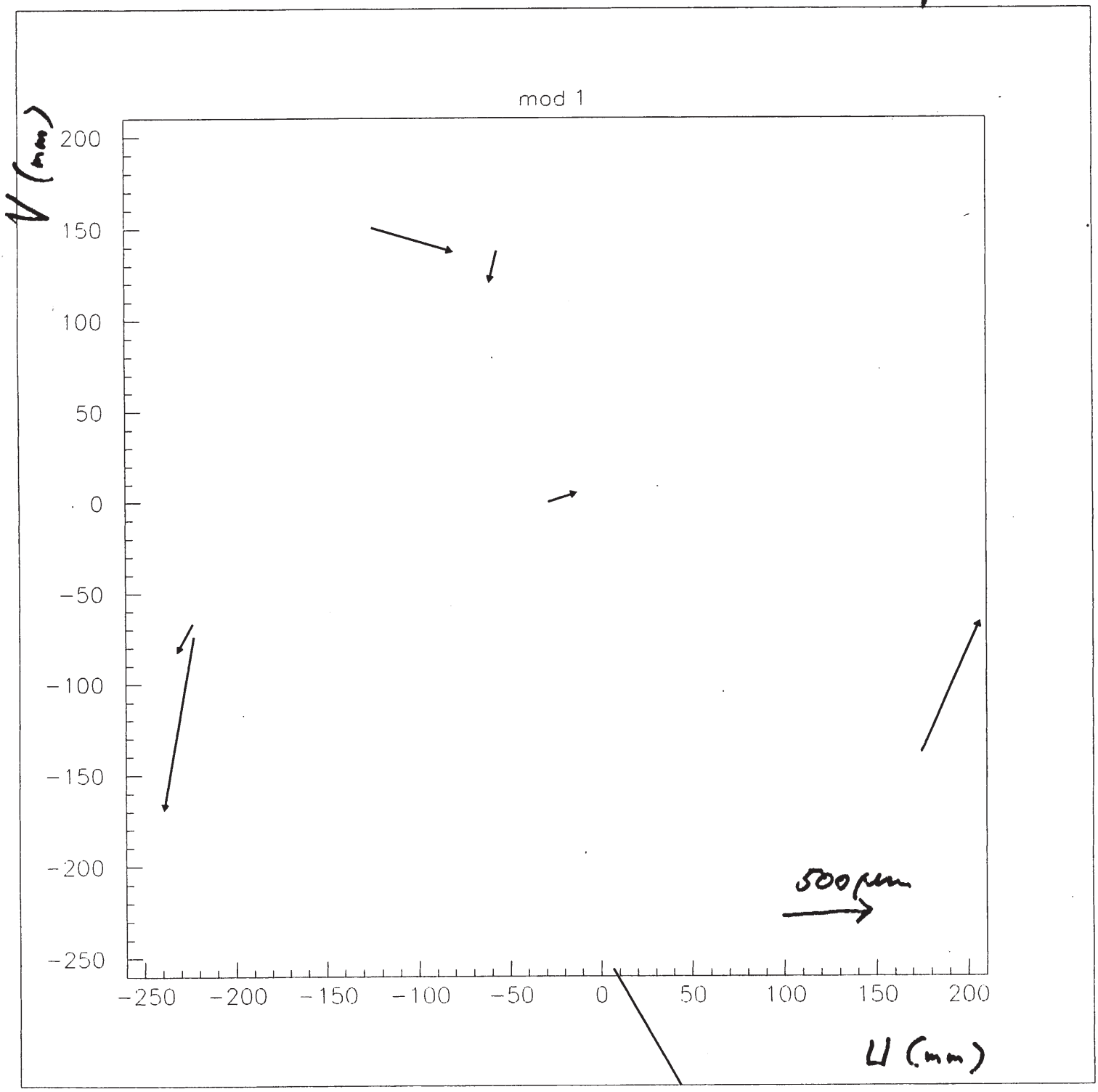



(Slope / Position) displacement at C.S

(Located events)



Position displacement

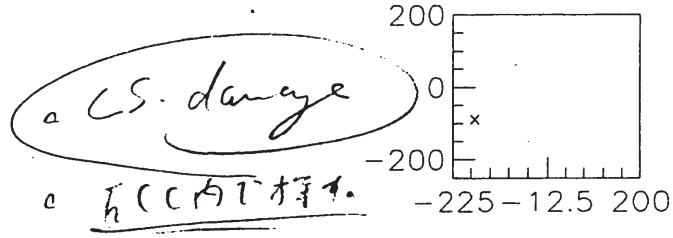


NO CS candidate

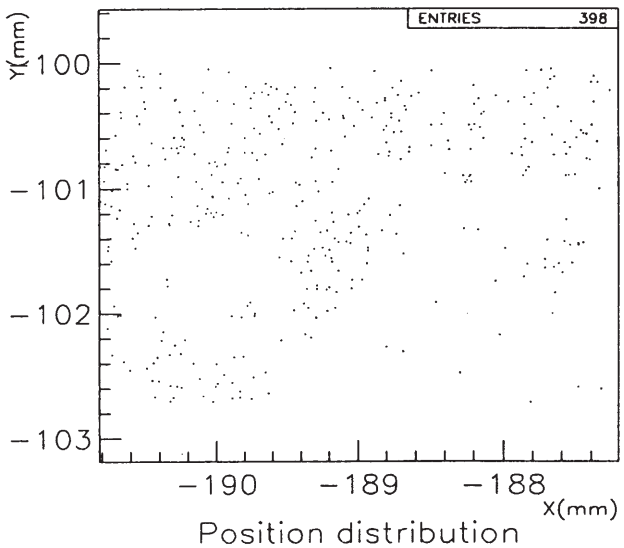
# Track Segment DATA

CS DAMAGE.

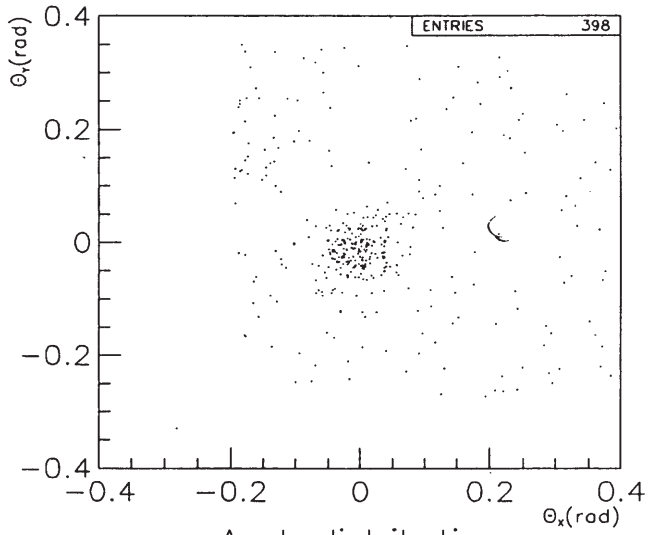
EXP. = e872
RUN = 3112
EVENT = 05200
MOD = 1
plate = 01−2
***emulsion type***
ECC(Fe=1000 Em=100 Bs=800 Em=100μm)



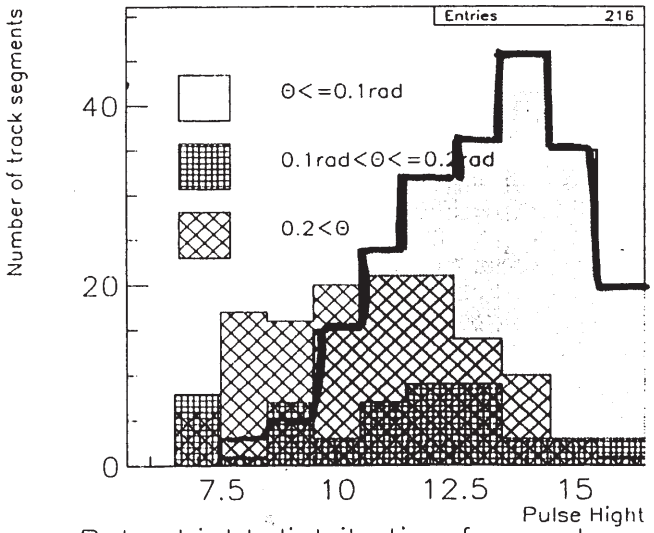

Scanned area(mm²)=(3.6,2.7)
Numbef of Track = 398
STAGE ID = 0
DATE =



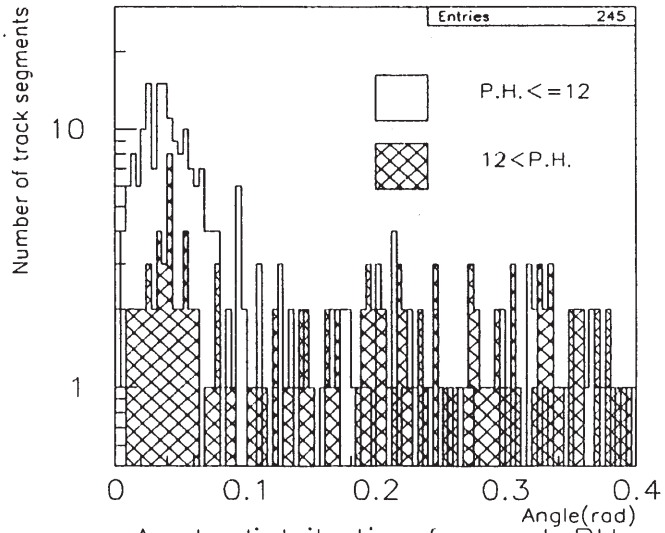

Position distribution



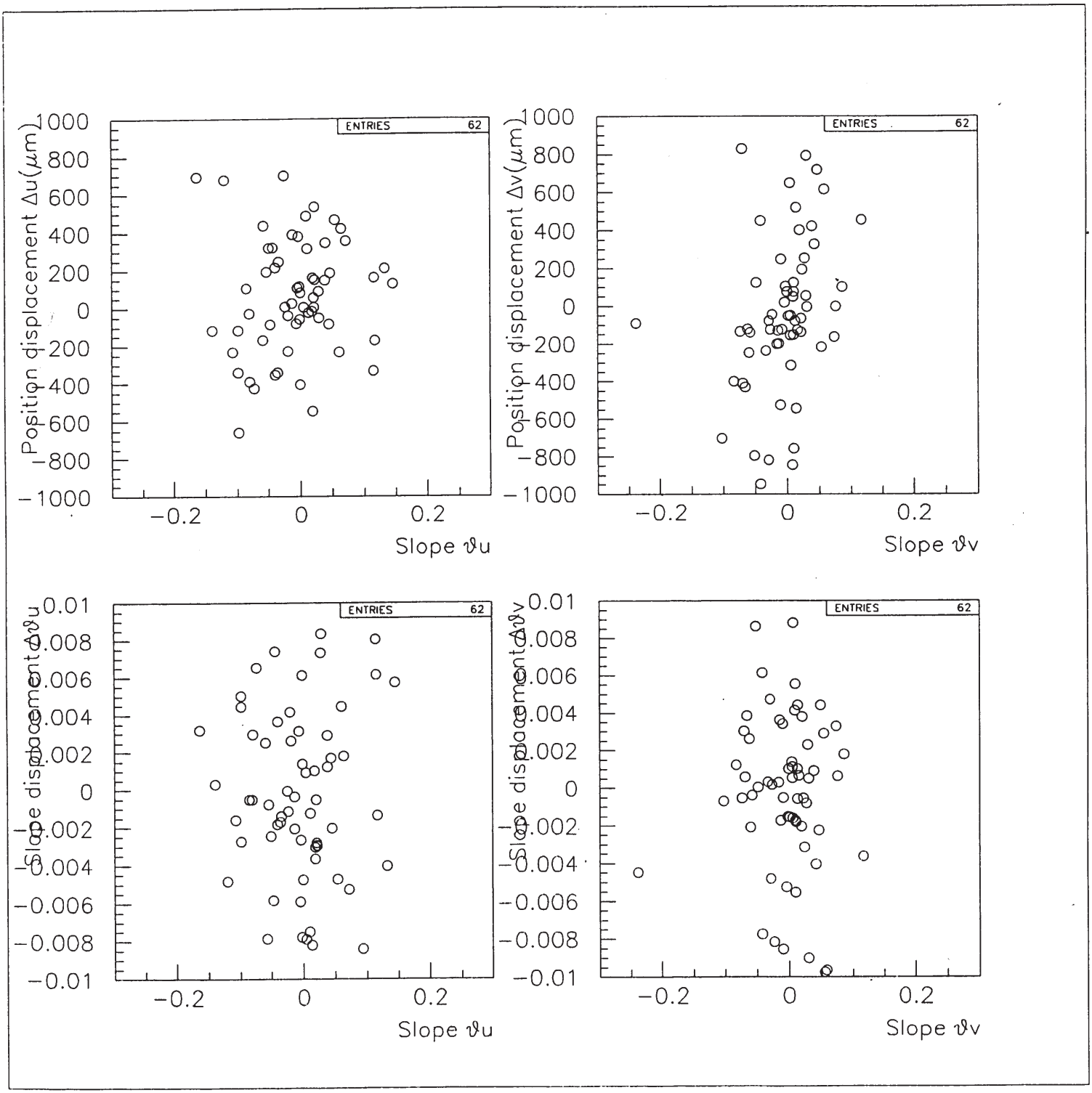

Angle distribution

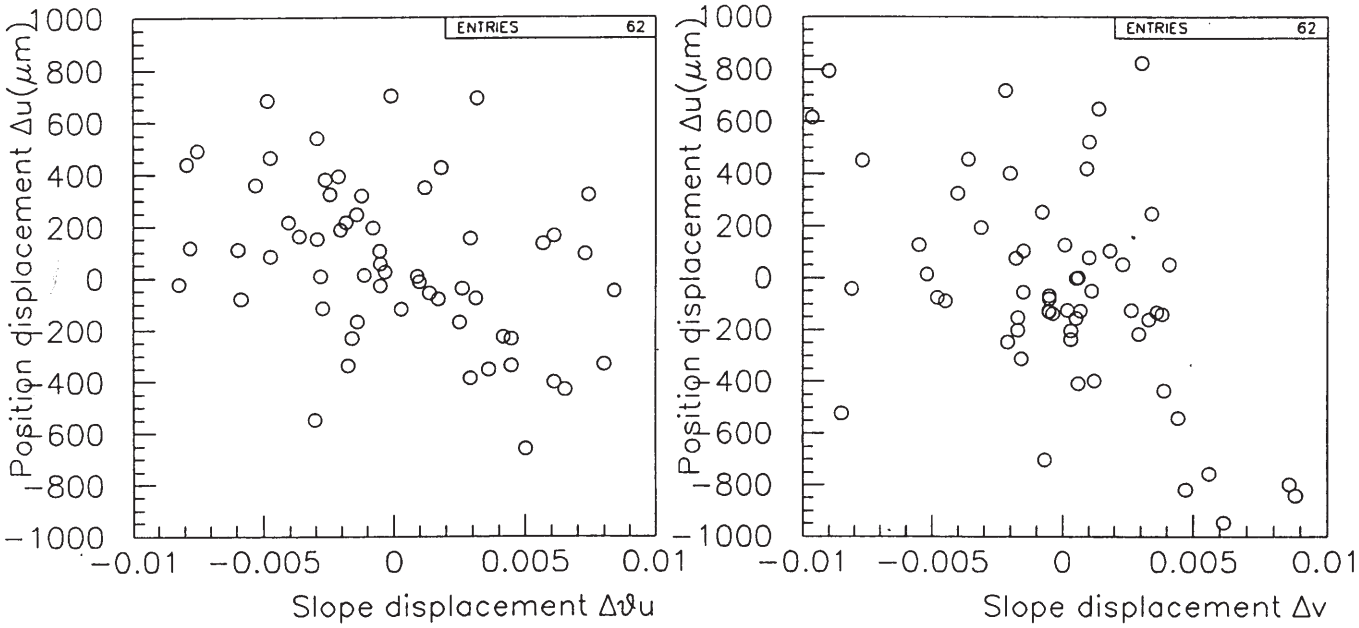


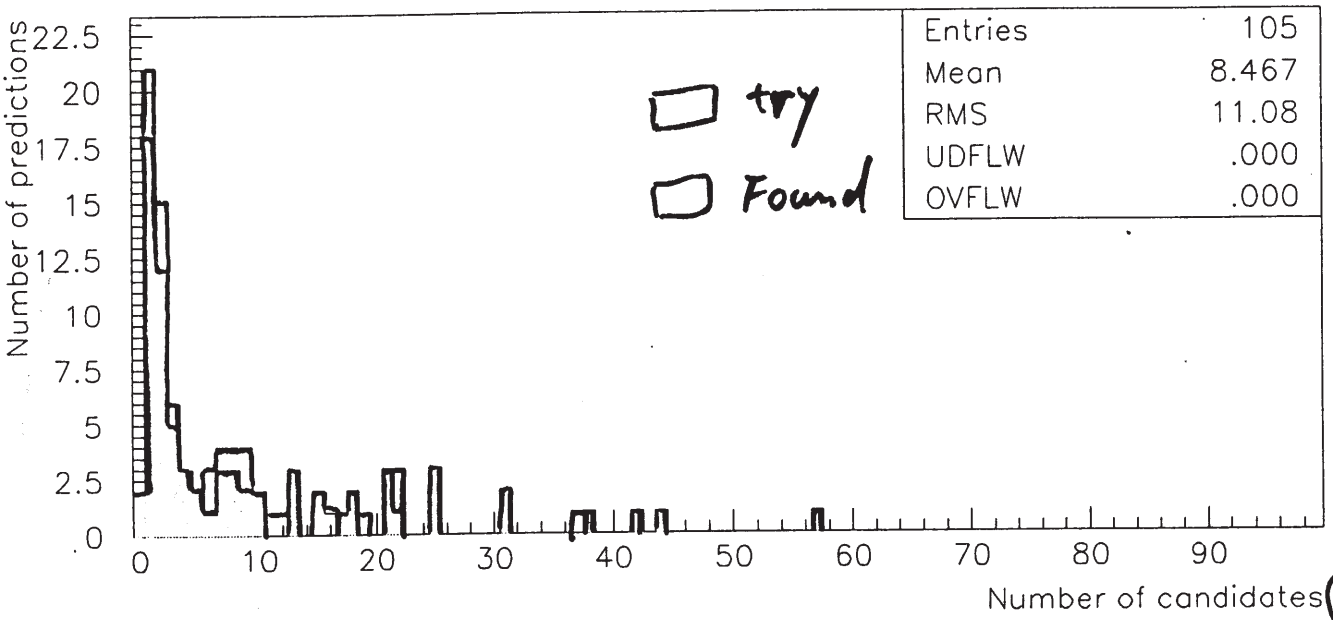

Pulse hight distribution for each angle

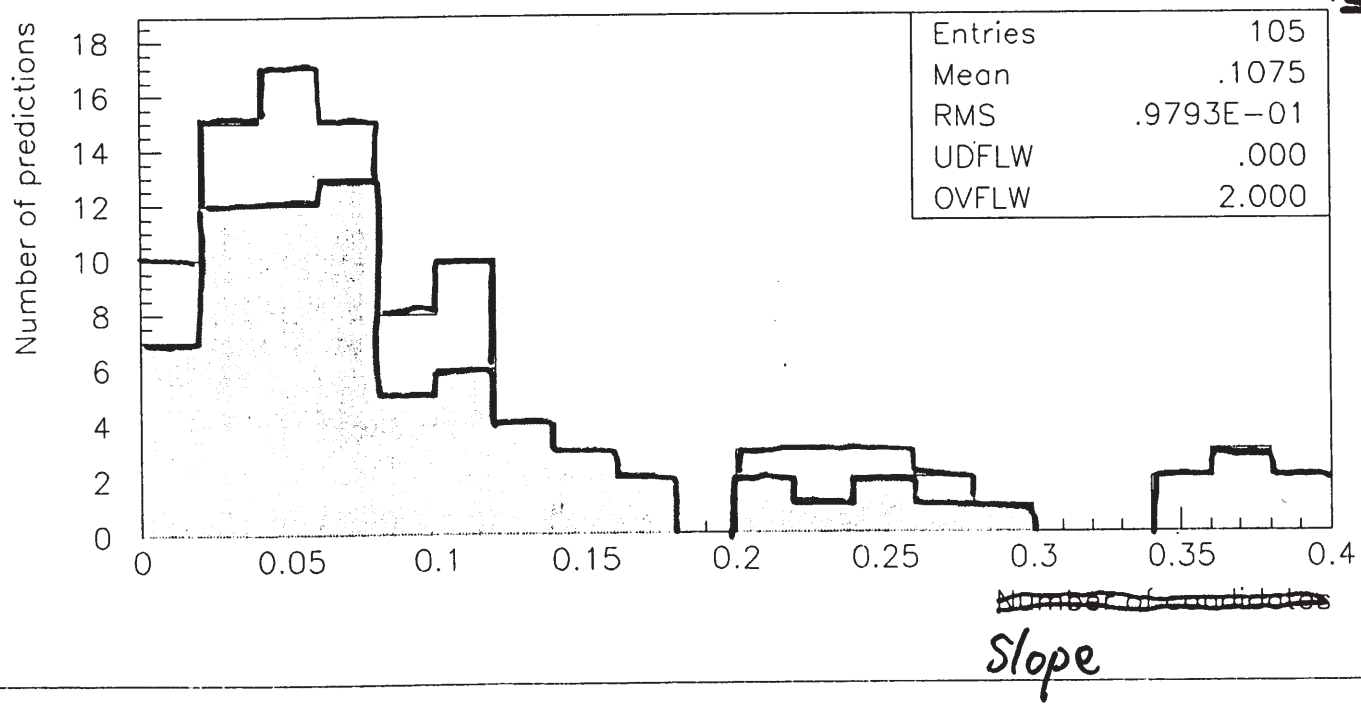



Angle distribution for each PH


ENTRIES 62
Position displacement Δu(μm)
Slope ϑu
ENTRIES 62
Position displacement Δv(μm)
Slope ϑv
ENTRIES 62
Slope displacement Δϑu
Slope ϑu
ENTRIES 62
Slope displacement Δϑv
Slope ϑv


ENTRIES 62
Position displacement Δu(μm)
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
−0.01
−0.005
0
0.005
0.01
Slope displacement Δϑu
ENTRIES 62
Position displacement Δu(μm)
Slope displacement Δv


Entries 105
Mean 8.467
RMS 11.08
UDFLW .000
OVFLW .000
try
Found
Number of predictions
Number of candidates
ax CS


Entries 105
Mean .1075
RMS .9793E-01
UDFLW .000
OVFLW 2.000
Number of predictions
~~Number of candidates~~
Slope

# Summary for NET SCANBACK.

- 72 tracks (61 events) are confirmed as real stop track by eye check.

- "Bad prediction" is the main reason for "Not Found."
  1. SFT alignment should be repaired.
  2. After prediction, result should be checked by eye
  3. If some tracks exist, all projected tracks should be predicted.

- All real stop tracks should be checked if that 1ry or not.

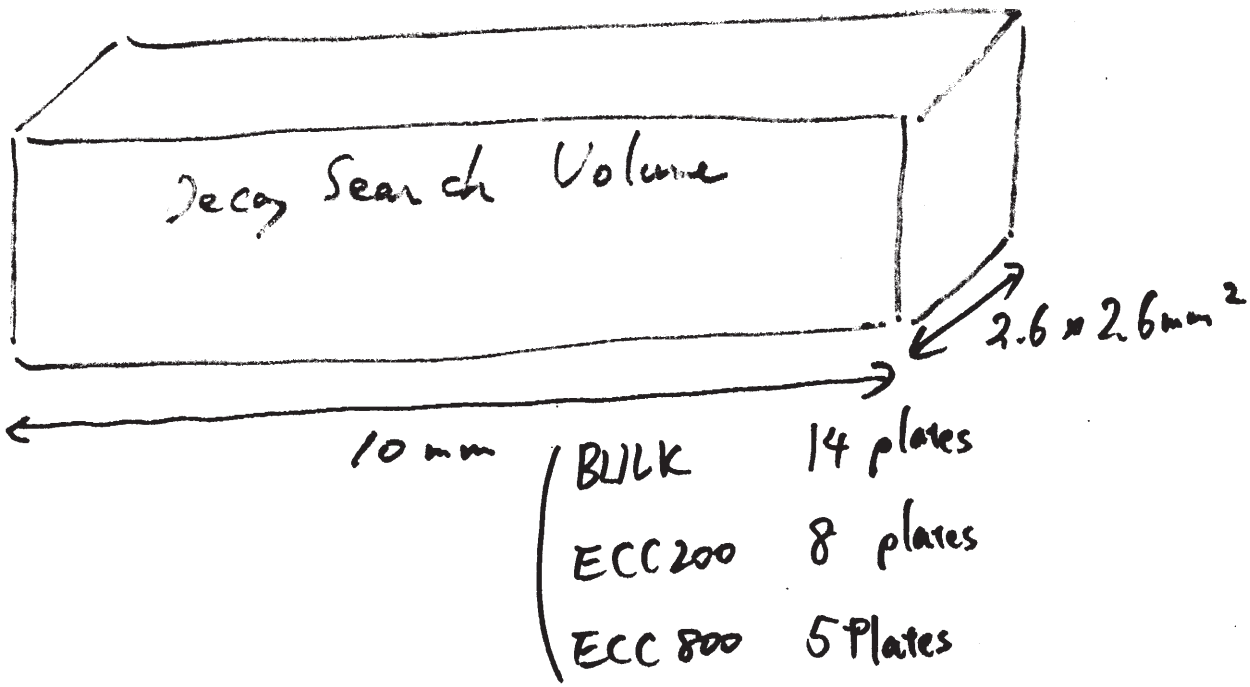
  Specially, momentum of tracks in ECC should be compared to counter momentum

- Remaining 38 tracks have been finished DATA TAKING,

  Until middle August, DATA will be analysed and served.

# ★ Decay Hunting.

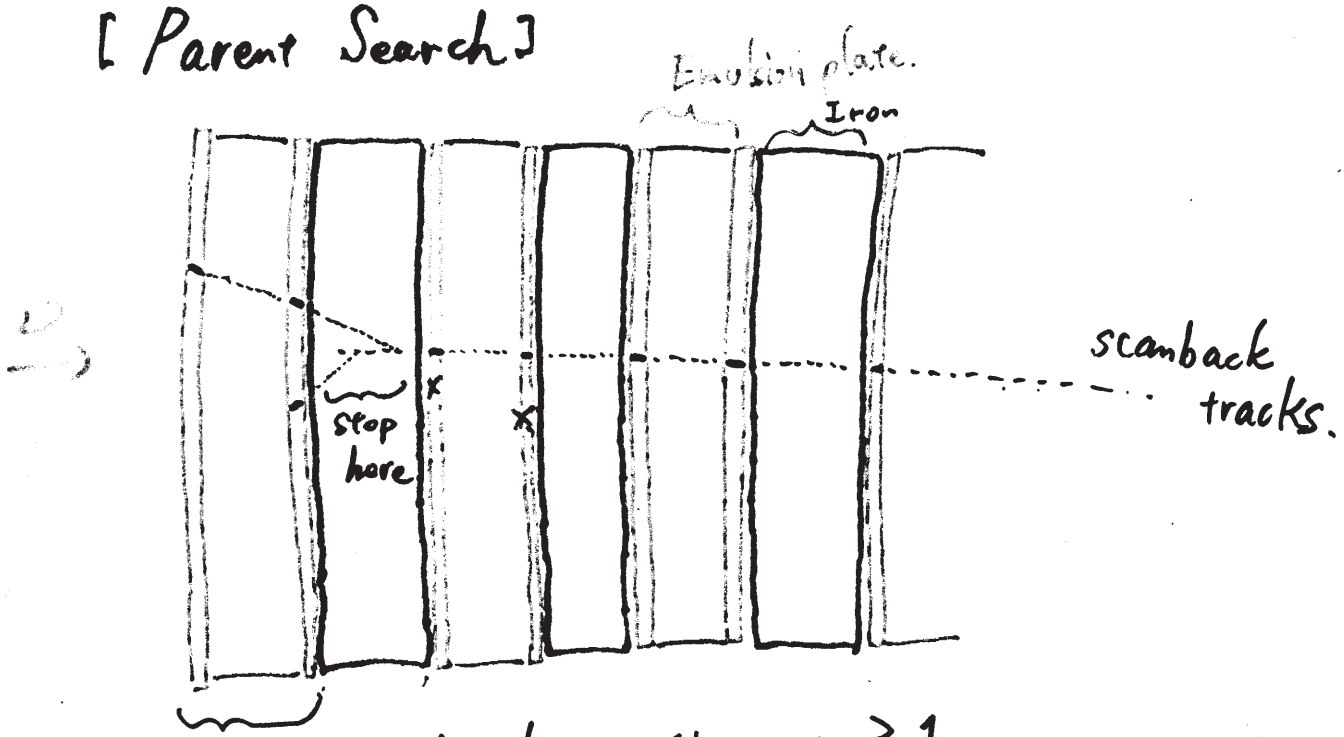
new Located Events — 73 events




73 events. — $\begin{cases} ns = 1 : 39 \text{ events.} \\ ns \geq 2 : 34 \end{cases}$

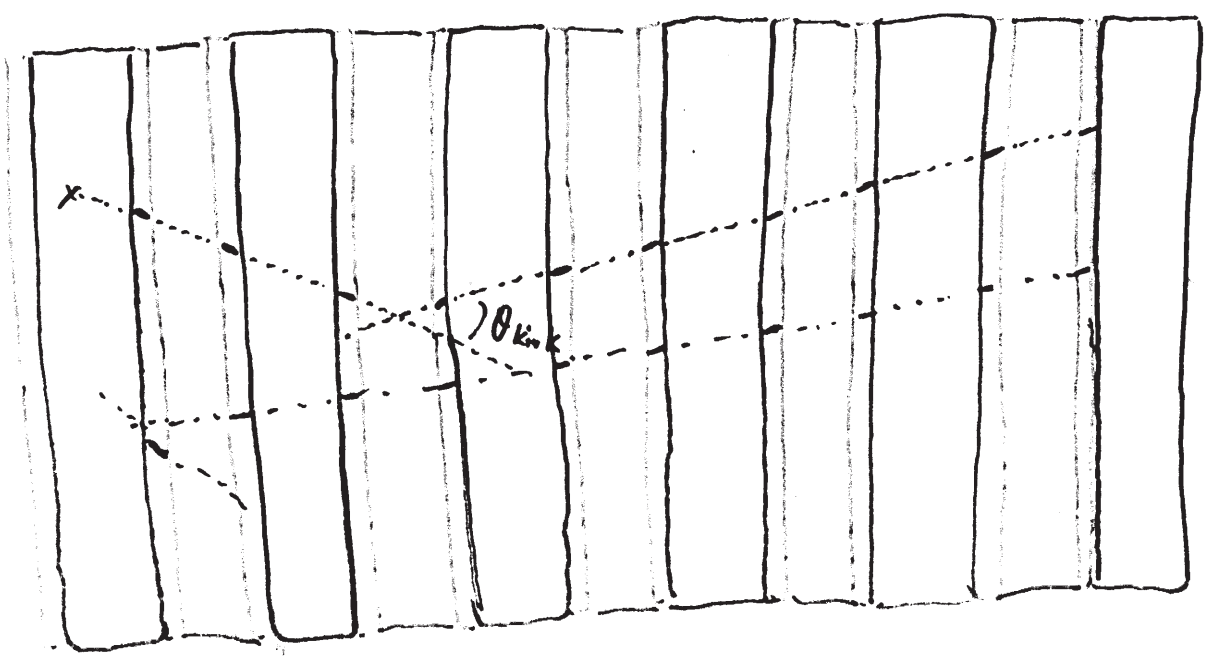
# ★ Decay Hunting for NS=1.

[ Parent Search ]




Parent Search plate. $N_{segment} \geq 1$.
I.P. $\leq 10\ \mu m$

[ ~~Small~~ kink search ]




$\theta_{kink} \geq 5$ mrad.

# Selected Event List.

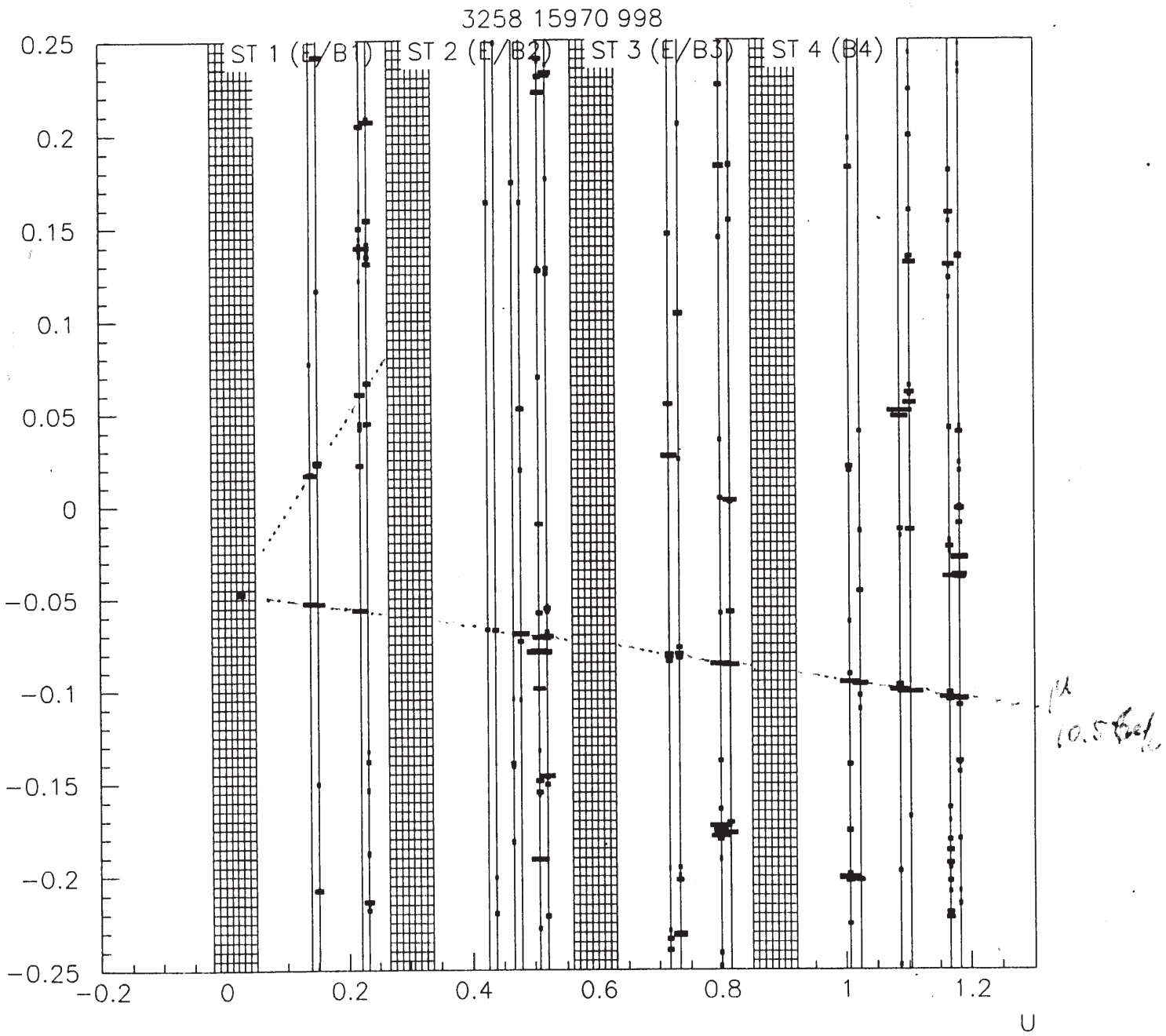
| [Parent Search] | Parent | F.L. (μm) | kink angle | P daughter | $P_T$ | |
|---|---|---|---|---|---|---|
| ◎ 3258-15970 | 0.0386, −0.1261 | 3800~4800 | 0.114 | $7.31^{+7.99}_{-2.62}$ | $831^{+910}_{-498}$ | Daughter is $\mu^-$ |
| [Small kink] | | | | | | |
| 3021-20971 | −0.149 −0.075 | 4539 | 0.021 | $1.78^{+0.90}_{-0.47}$ | $37^{+19}_{-10}$ | |
| 3119-17999 | −0.008 0.1088 | 4305 | 0.008 | 1.6 | 15 | |
| 3182-10057 | 0.1224 −0.0367 | −26 | 0.020 | 3.7 | 74 | Hadron$^-$ |
| ◎ 3194-17379 | −0.0182, 0.0783 | −8 | 0.016 | $18.5^{+4.6}_{-3.2}$ | $290^{+70}_{-50}$ | $\mu^-$ |
| 3357-30656 | −0.1239 0.0104 | 9375 | 0.011 | 0.9 | 10 | |
| 3121-03060 | 0.0299 0.0321 | 2338 (μm) | 0.005 | 2.3 (GeV/c) | 10 (MeV/c) | |

[Long large]

~~nothing.~~

※ [Any Search] [Vee Search] [Short Search] have not yet done.

Selected event from Parent Search.



# Tracking Characteristics (Summary)

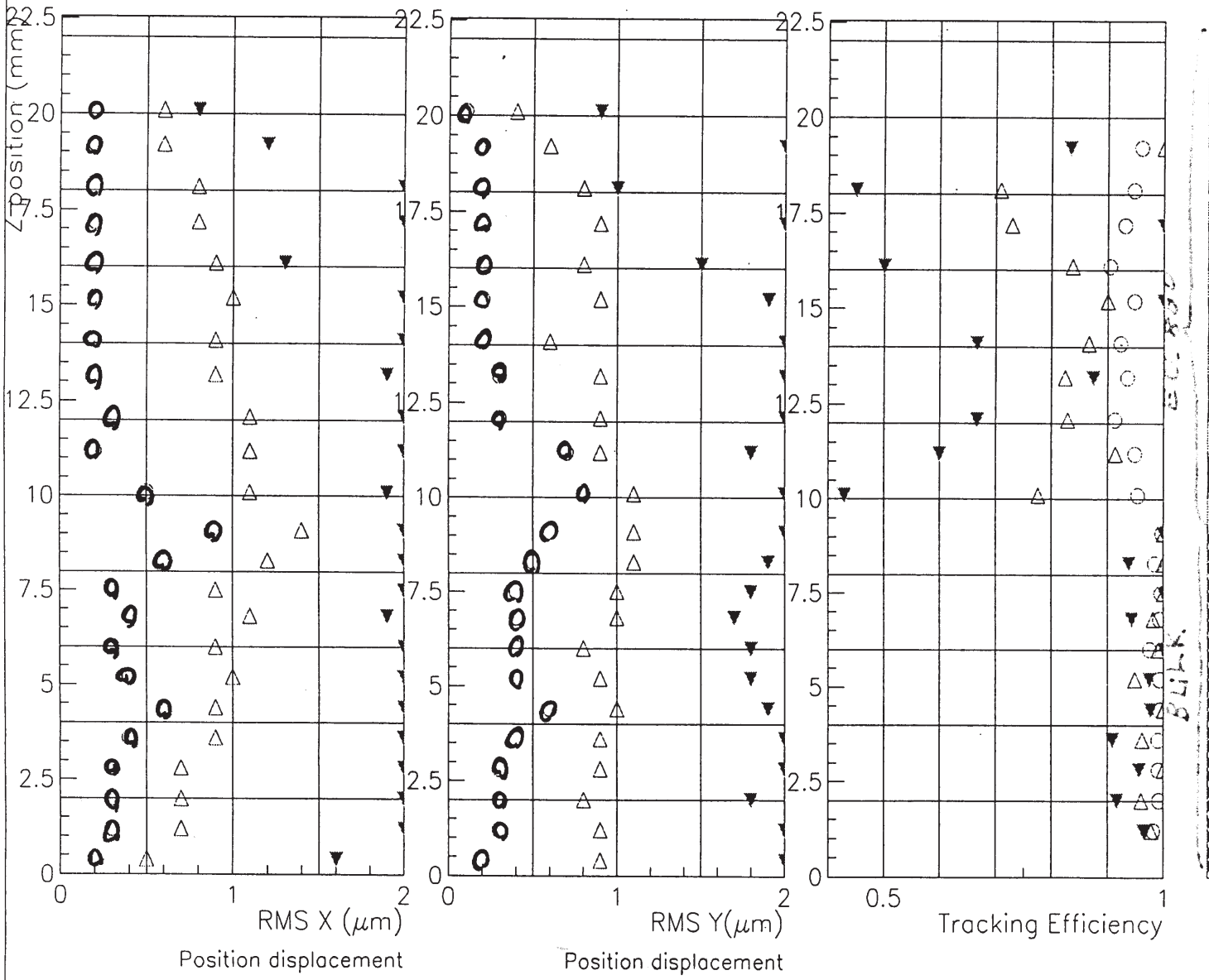
e872

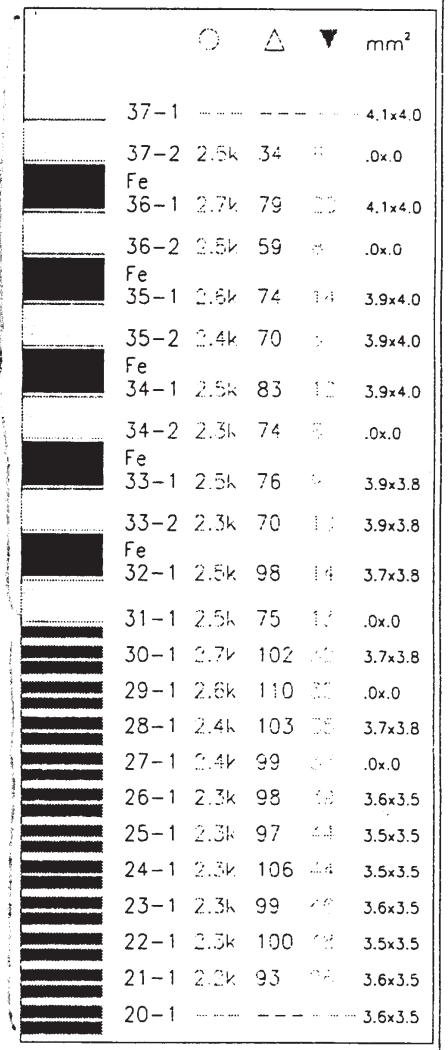
RUN=3258 EVENT=15970 MODULE=5

○ $\vartheta<0.1$rad

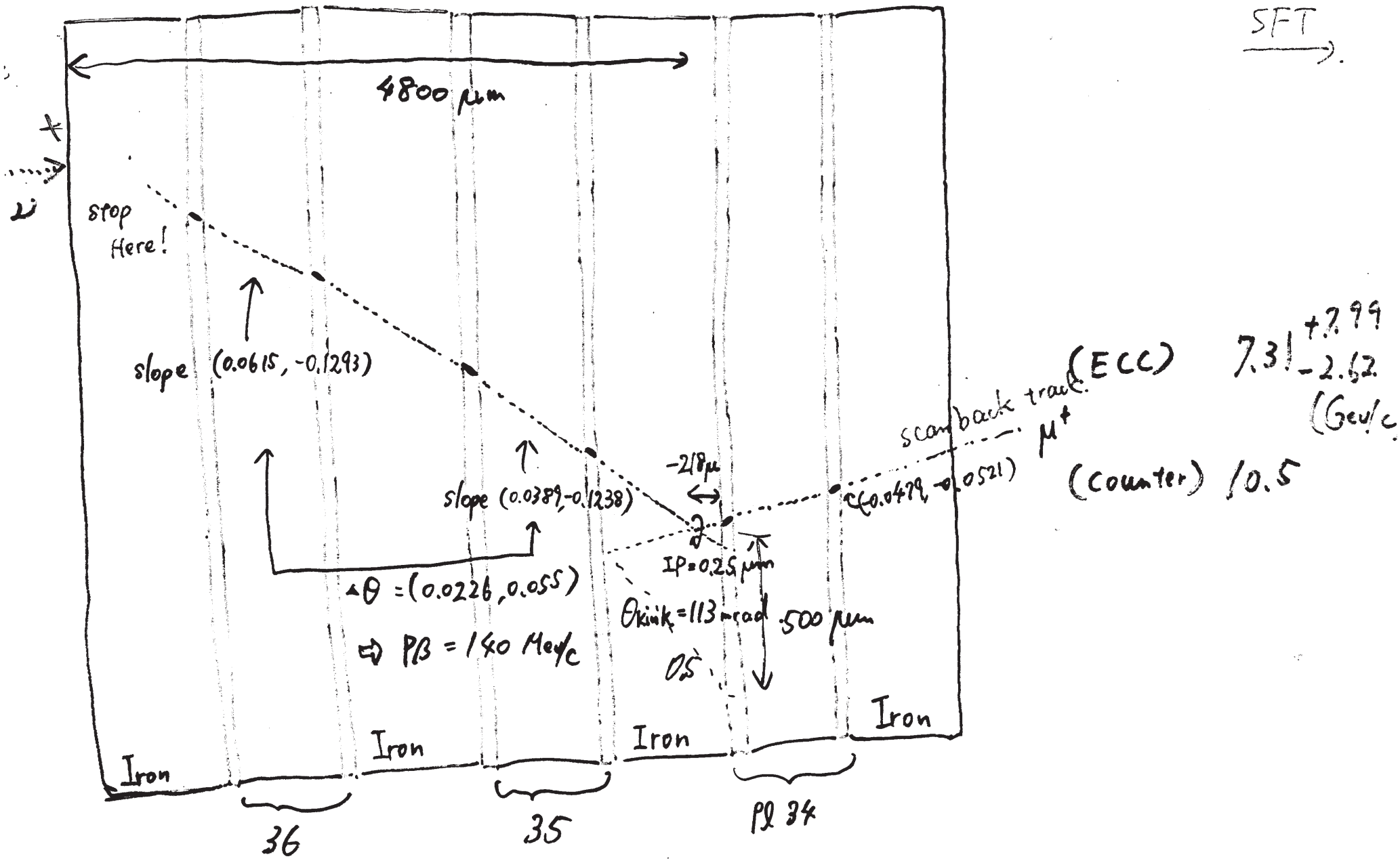
△ $0.1<\vartheta<0.2$rad

▼ $\vartheta>0.2$rad



3258-15970

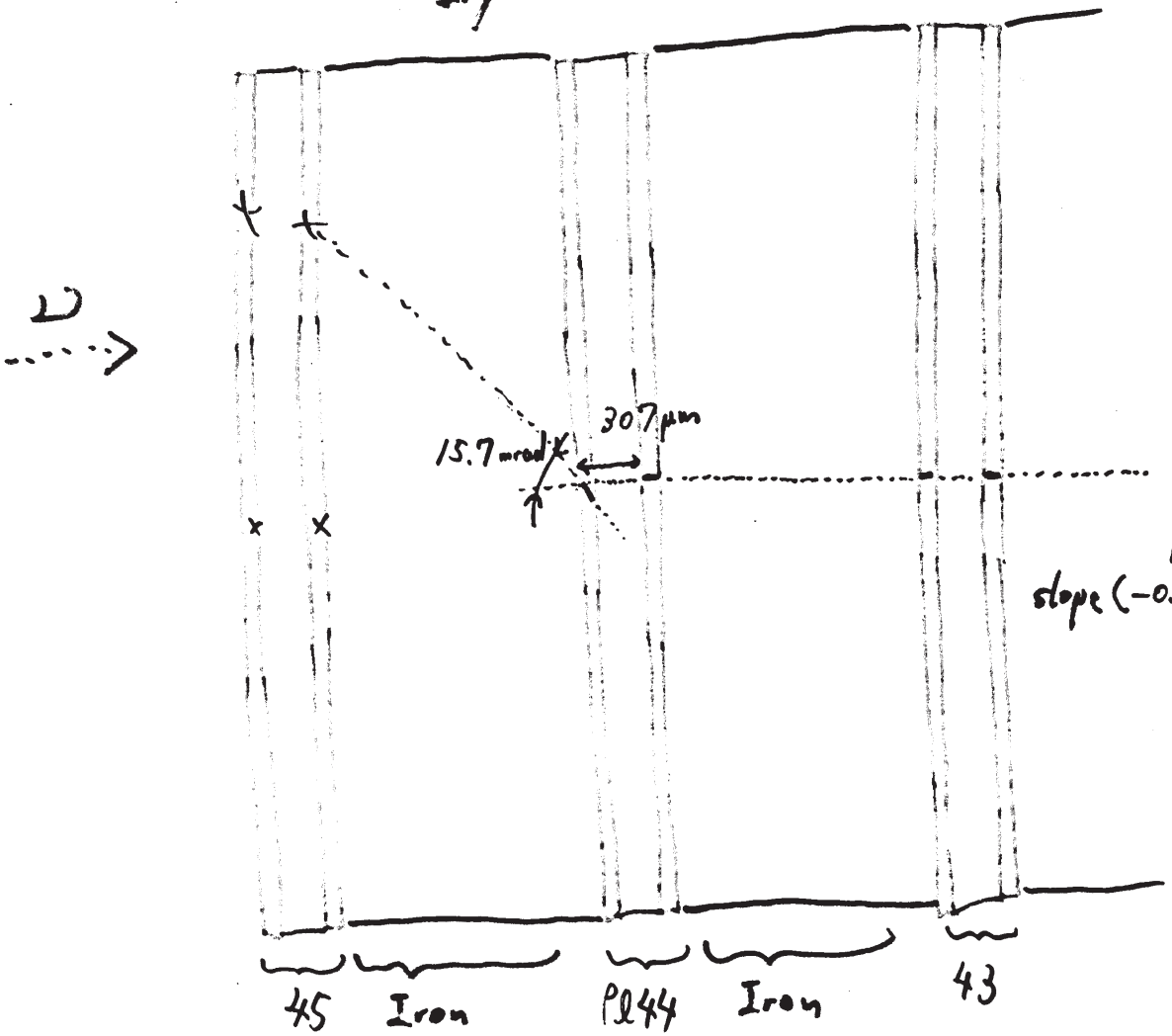


SFT
4800 μm
ν
stop Here!
slope (0.0615, -0.1293)
slope (0.0389, -0.1238)
-218μ
IP=0.25 μm
Δθ = (0.0226, 0.055)
⇨ Pβ = 140 MeV/c
θkink = 113 mrad
500 μm
0.5
scan back track
μ+
(0.0479, -0.0521)
(ECC) 7.31 +7.99 -2.62 (GeV/c
(counter) 10.5
Iron
Iron
Iron
Iron
36
35
Pl 34

3194 – 17379

· ns = 1

· 1ry in Fe.



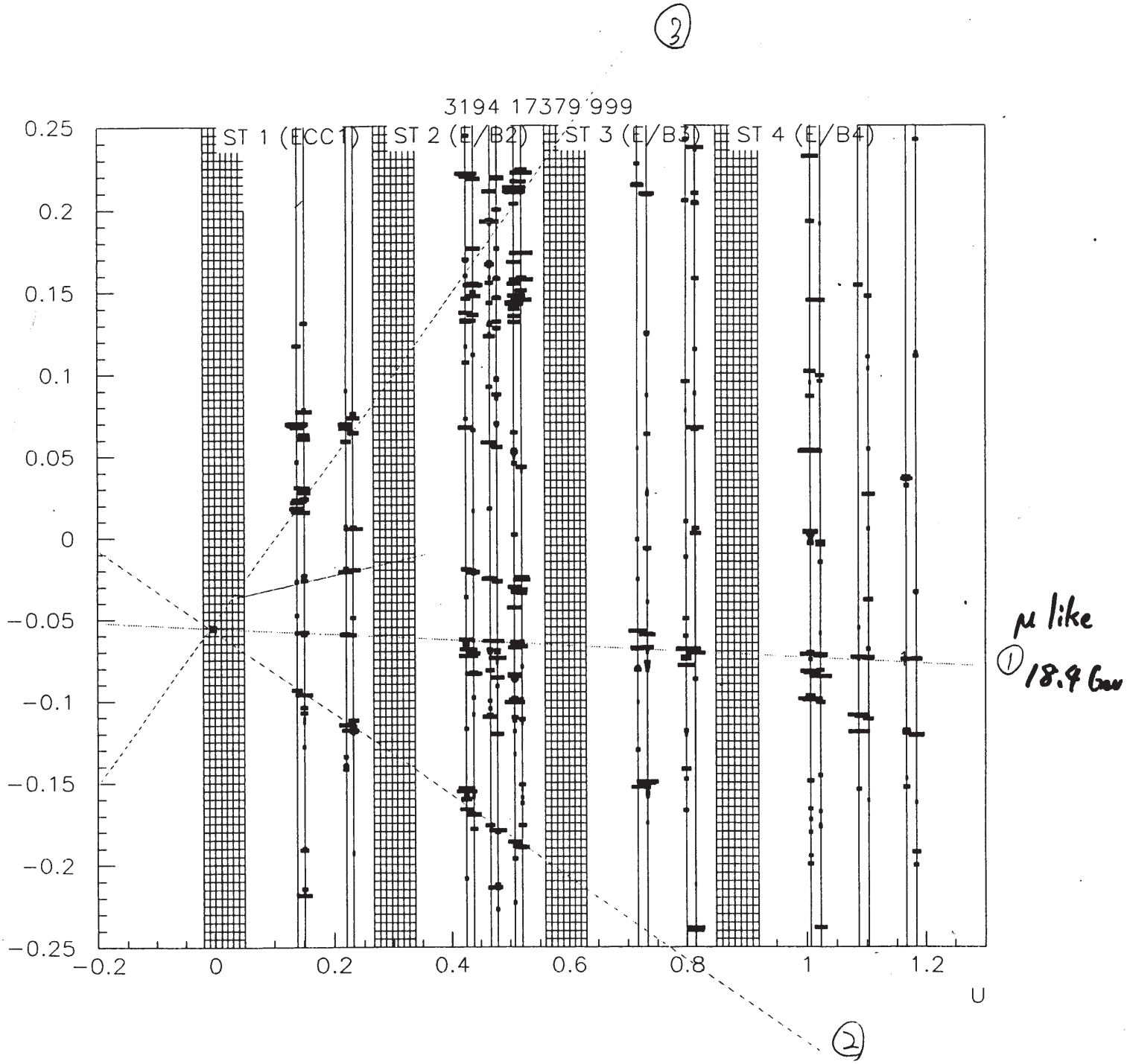

$\mu^+$ (ECC) $18.51^{+4.58}_{-3.18}$ GeV/c

slope (−0.0187, 0.0762)

consistent.

(counter) 18.4 GeV/c

Selected events from Small Kink.




① −0.0181

② −0.25

③ 0.5

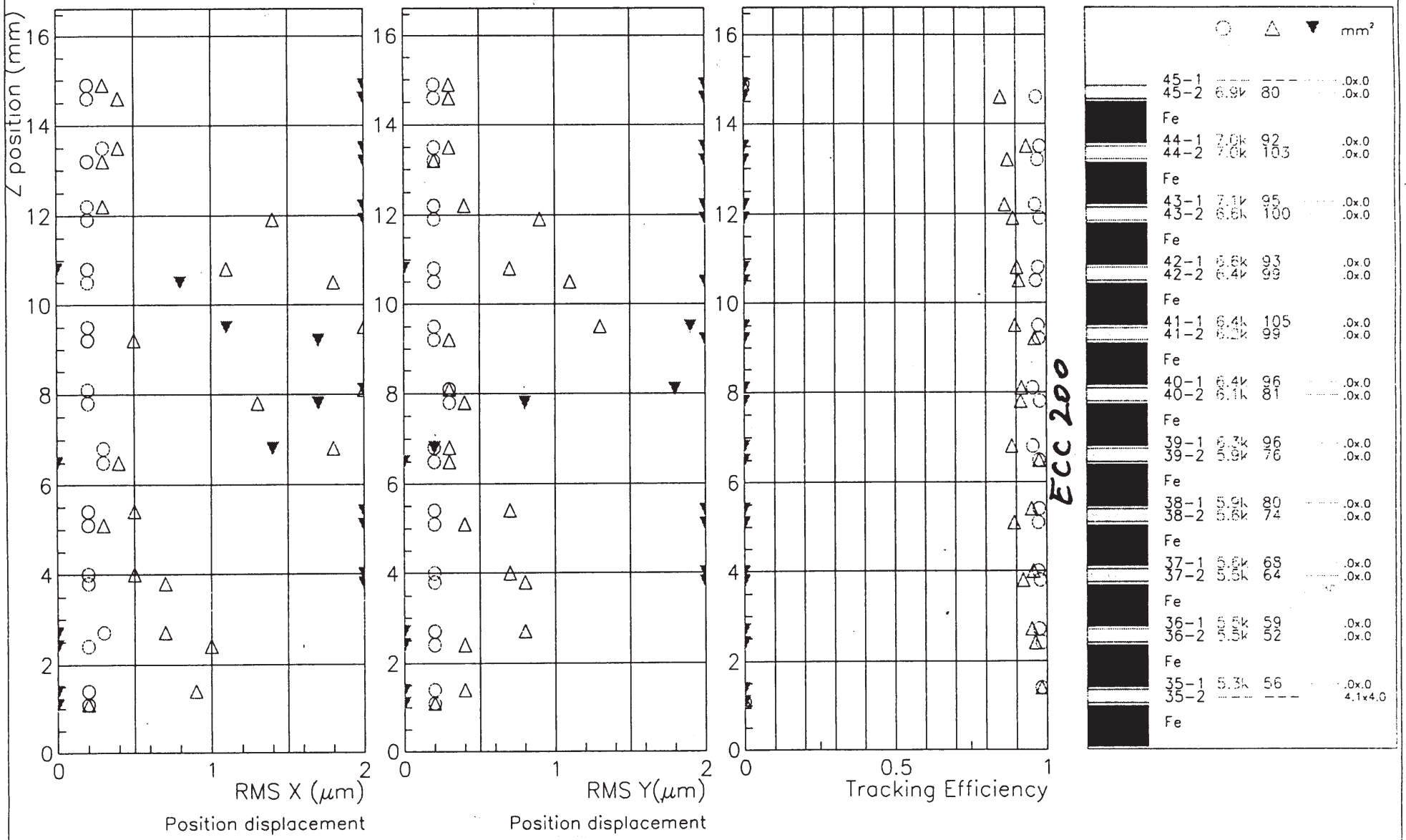
# Tracking Characteristics (Summary)

**e872**

**RUN=3194 EVENT=17379 MODULE=1**

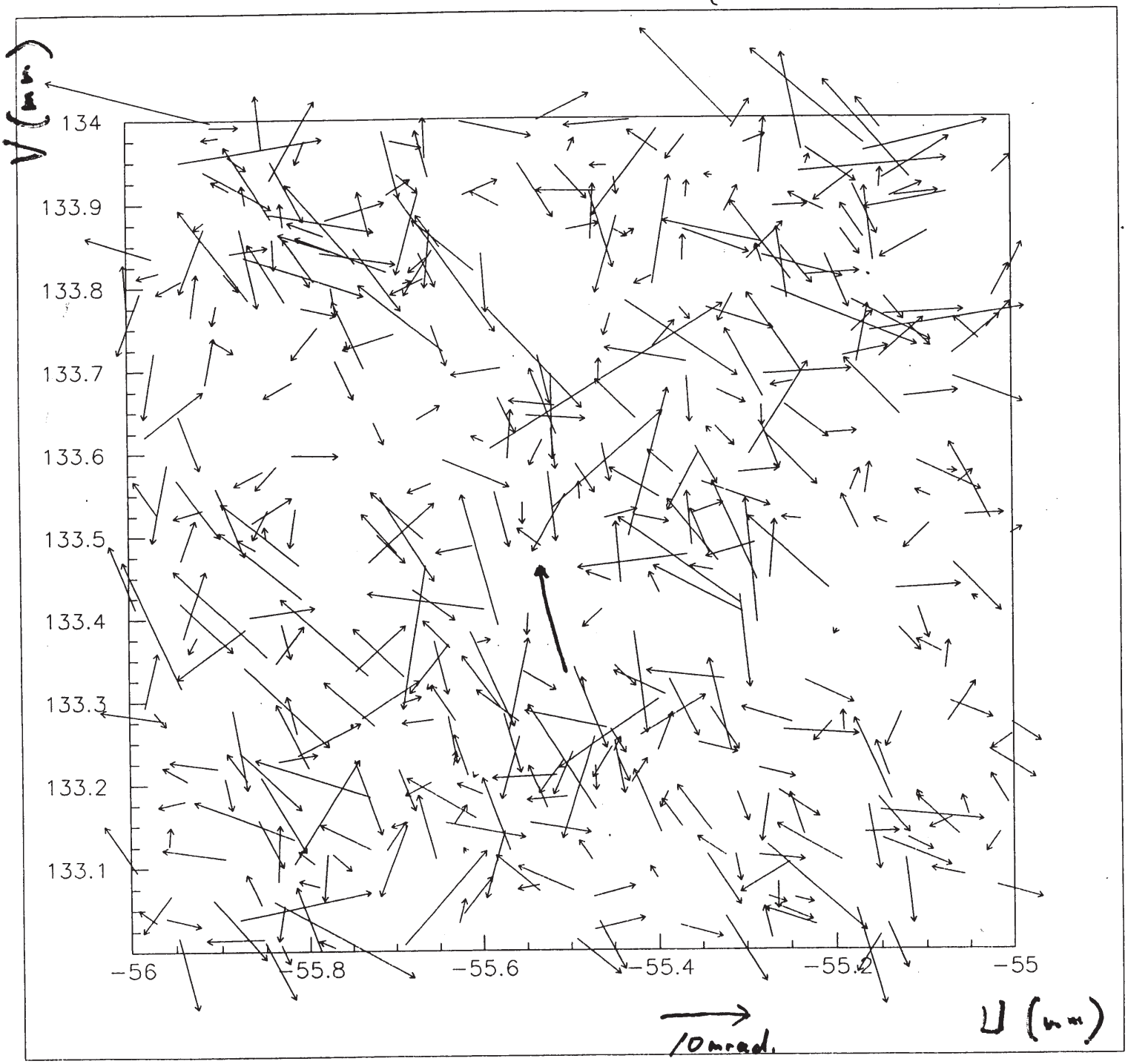
5b track (-0.0182, 0.0784).

○ $\vartheta$<0.1rad
△ 0.1<$\vartheta$<0.2rad
▼ $\vartheta$>0.2rad



Slope displacement.

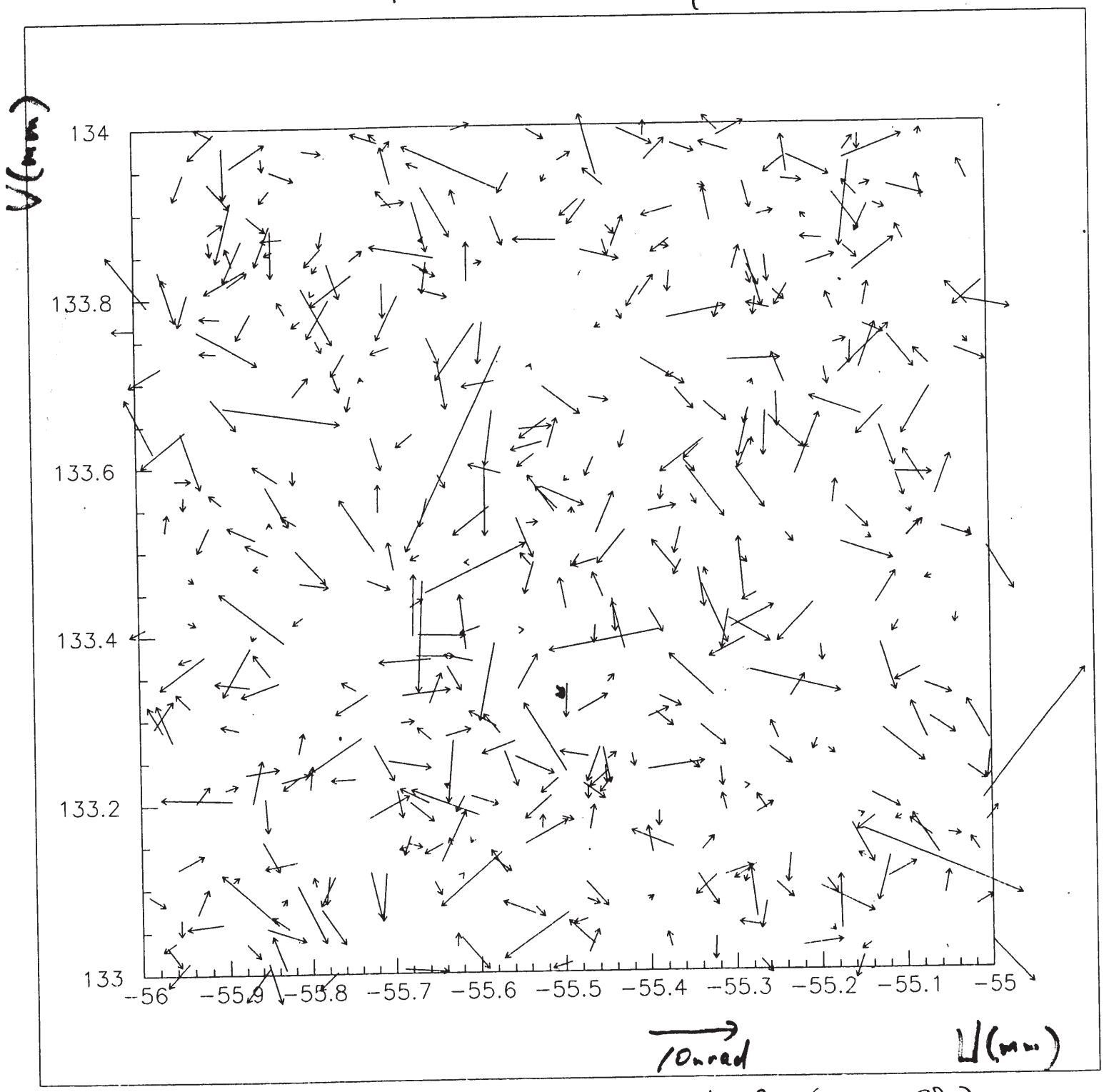
Old DATA p44 – 1st surface




Position RMS (0.49, 0.39)

Angle RMS (0.0072, 00073)

retaken DATA pl 44 - 1st surface




Position RMS (0.38, 0.38)

Angle RMS (0.0037, 0.0040).