Alignment Status

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- Up to now three geometry descriptions were prepared based on alignment runs:
  - FIELDOFF: 47899, FIELDON: 47905
  - FIELDOFF: 49453, FIELDON: 49458
  - FIELDOFF: 50639, FIELDON: 50630
- Alignment to be prepared:
  - FIELDOFF: 50991, FIELDON: 50993
- Detectors that have not been aligned:
  - Rich Wall - work in progress
  - Muon Wall 1 - work in progress
  - Hodoscopes - planned as a next step

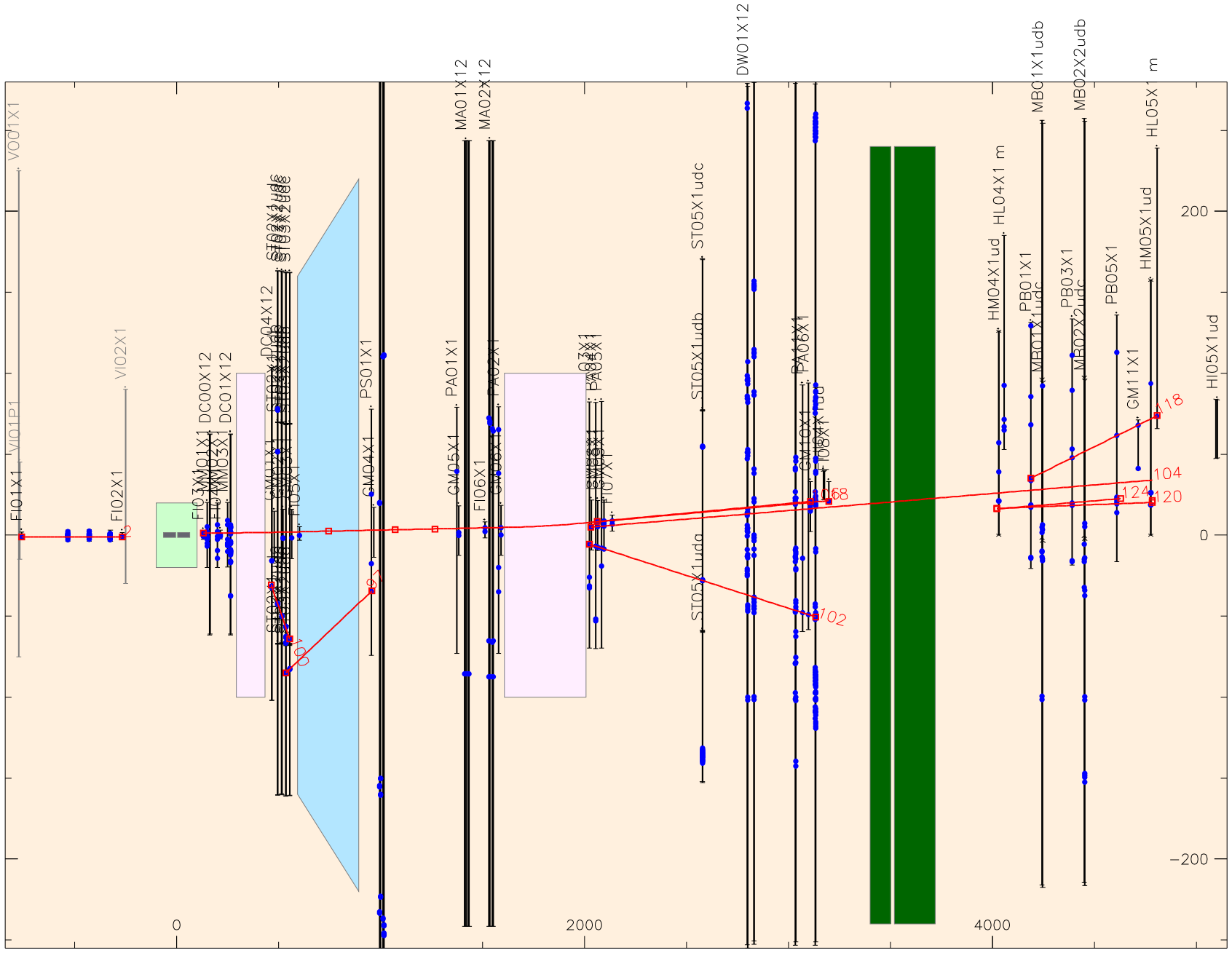
Differences in Z positions between 2004 and 2006.

Detector	Z difference [cm]	Reason	Action
DC01	-0.93	Z alignment of Sebastien. DC01 is attracted to SM1 when it is on.	Position from 2004 used.
FI02Y FI02X	+19.85 +21.35	New solenoid magnet. Whole beam telescope was adjusted. Difference between Y and X due to an error in 2004 file.	
FI03	+5.86	New solenoid magnet.	
FI05	+15.20	Moved with RICH.	
FI06 FI07	+10.51	Moved with SM2.	
GM03	-2.05	2.05 cm come from Sebastien's Z alignment. This value rose with subsequent iterations. I decided to use design offset from ST03.	To be clarified.
GM04 PS01	+1.51 +1.51	Position confirmed by 2 subsequent surveys. Waiting for results of third.	To be clarified.
GM05 PA01	-4.63 -4.63	Moved with SM2. Then moved upstream to make place for FI55.	
GM06 PA02 GM07 PA03 GM08 PA04 GM09 PA05	+9.07 +9.07 +11.02 +11.02 +11.21 +11.21 +11.08 +11.08	Moved with SM02. Surveyors report stated wrong target spacer. With assumption that 36mm spacer were used we obtain an agreement on the order of 5mm, with measurements performed by Oleg Denisov using a ruler. For PA02 the suspension was adjusted, so the movement is different.	
MA01X1 MA01X2 ...	+13.50 +15.04	Moved with SM2. Then moved downstream toward MF1. Difference between X1 and X2 comes from error in 2004 file.	
MA02X1 MA02X2 MA02Y1 MA02Y2 ...	+15.59 +17.12 -0.41 +1.12	Moved with SM2. Order of X and Y planes seems to be changed.....	To be clarified.
SI01 SI02 SI03	+33.59 +70.36 +26.27	New solenoid magnet. Whole beam telescope was adjusted.	
ST05	+130.54	Movement confirmed by detector experts.	

Tracking performance with geometry description: detectors.50610.1T.plus.dat.

As trigger mask is still wrong in CORAL statistics only for all triggers:

Run:	50694 (27 August 2006)	40108 (07 September 2004)
Trigger Mask	0x7fffff	0x7fffff
# Events	5000 ± 0	5000 ± 0
# Tracks	11847 ± 168	13935 ± 174
$\chi^2$of tracks:		
ALL	2.395 ± 0.022	2.21 ± 0.03
SM1	2.448 ± 0.028	2.155 ± 0.029
SM2	1.850 ± 0.035	2.09 ± 0.03
μ'	1.860 ± 0.032	2.038 ± 0.039
Beam information missing:	42.23 ± 0.85	28.03 ± 0.52
due to SciFi/Si (% of events)	39.13 ± 0.69	26.17 ± 0.44
% events with Primary Vtx	23.82 ± 0.66	32.88 ± 0.54
# tracks per Primary Vtx	3.06 ± 0.03	3.194 ± 0.036
% events with μ' Vtx	5.15 ± 0.47	21.46 ± 0.44
% Secondary Vtx	56.72 ± 2.51	69.16 ± 2.36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VI01P1
VI02X1
FI01X1
FI02X1
DC00X12
DC01X12
PS01X1
GM04X1
GM05X1
PA01X1
MA01X12
MA02X12
FI06X1
PA02X1
DW01X12
ST05X1udc
ST05X1udb
ST05X1uda
PA06X1
HM04X1ud
HL04X1 m
PB01X1
MB01X1udb
PB03X1
MB02X2udb
PB05X1
GM11X1
HM05X1ud
HL05X1 m
HI05X1ud
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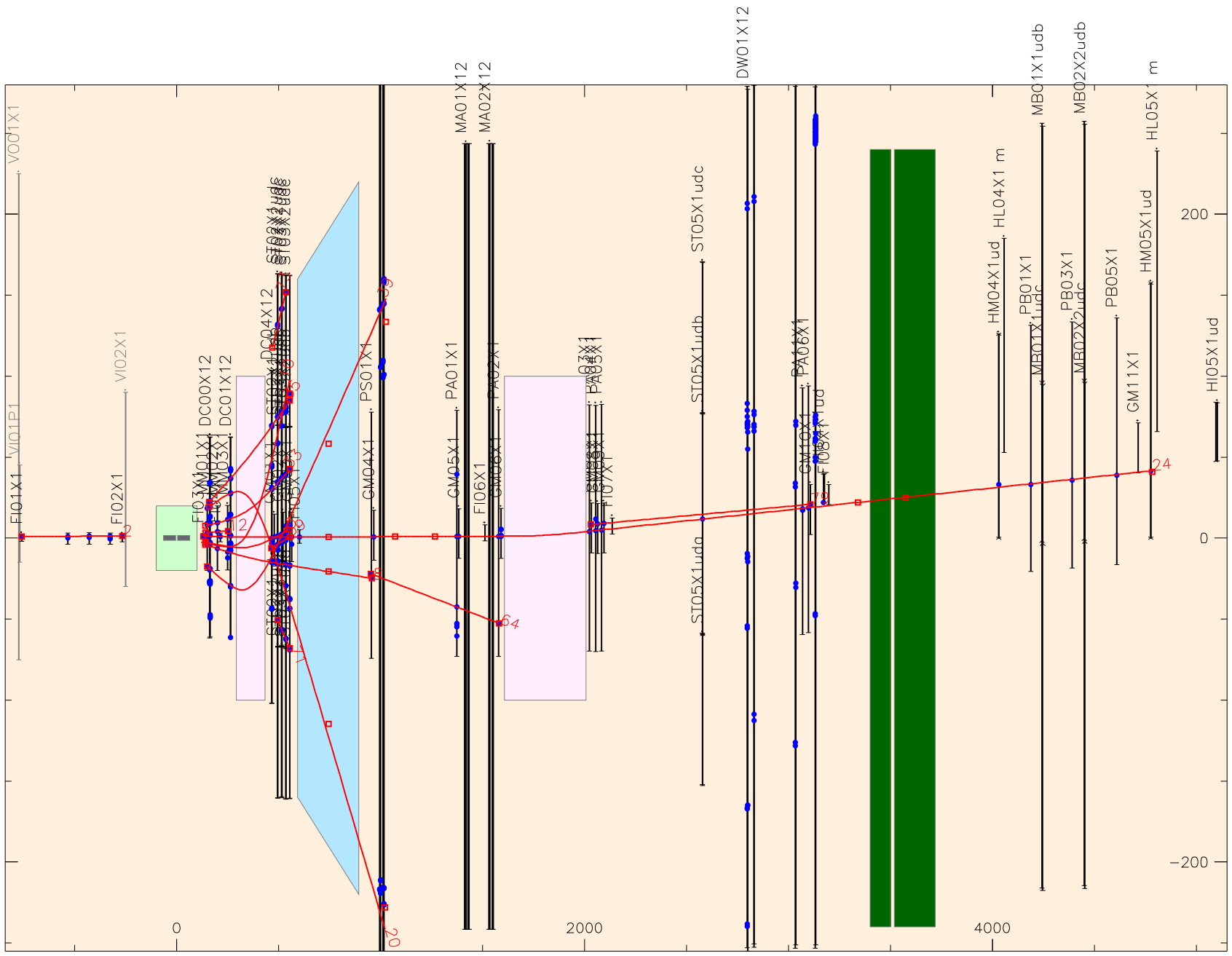
104
124
120
102
0
2000
4000
200
0
-200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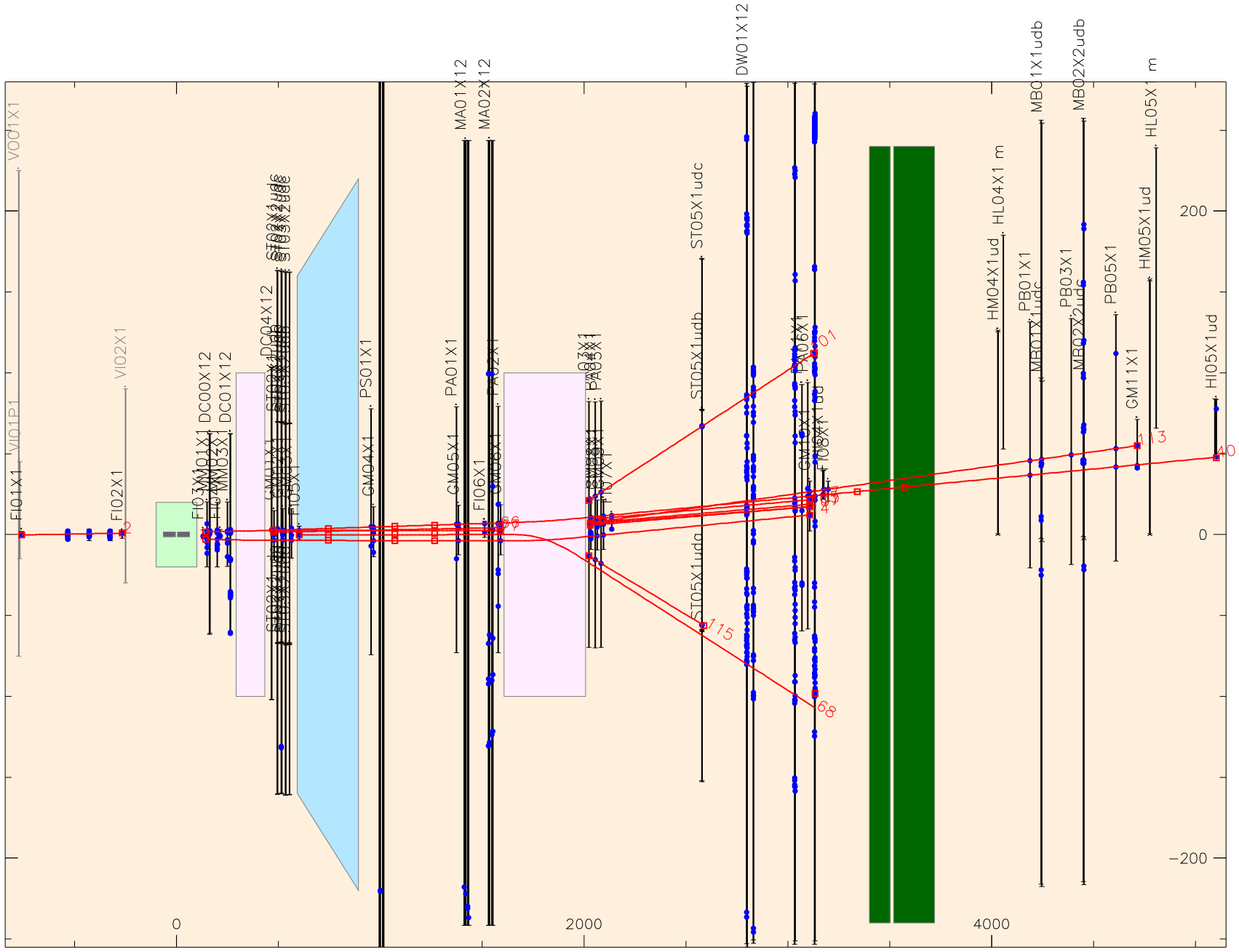
VI01P1
VI02X1
FI01X1
FI02X1
DC00X12
DC01X12
DC04X12
PS01X1
GM04X1
MA01X12
MA02X12
PA01X1
GM05X1
FI06X1
PA02X1
DW01X12
ST05X1udc
ST05X1udb
ST05X1uda
PA06X1
GM11X1
HM04X1ud
HL04X1 m
PB01X1
MB01X1udb
PB03X1
MB02X2udb
PB05X1
HM05X1ud
HL05X1 m
HI05X1ud
0
2000
4000
200
0
-200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VO01X1
VI02X1
VI01P1
FI01X1
FI02X1
DC00X12
DC01X12
PS01X1
PA01X1
PA02X1
MA01X12
MA02X12
DW01X12
ST05X1udc
ST05X1udb
ST05X1uda
HM04X1ud
HL04X1 m
MB01X1udb
MB02X2udb
PB01X1
PB03X1
PB05X1
GM11X1
HM05X1ud
HL05X1 m
HI05X1ud
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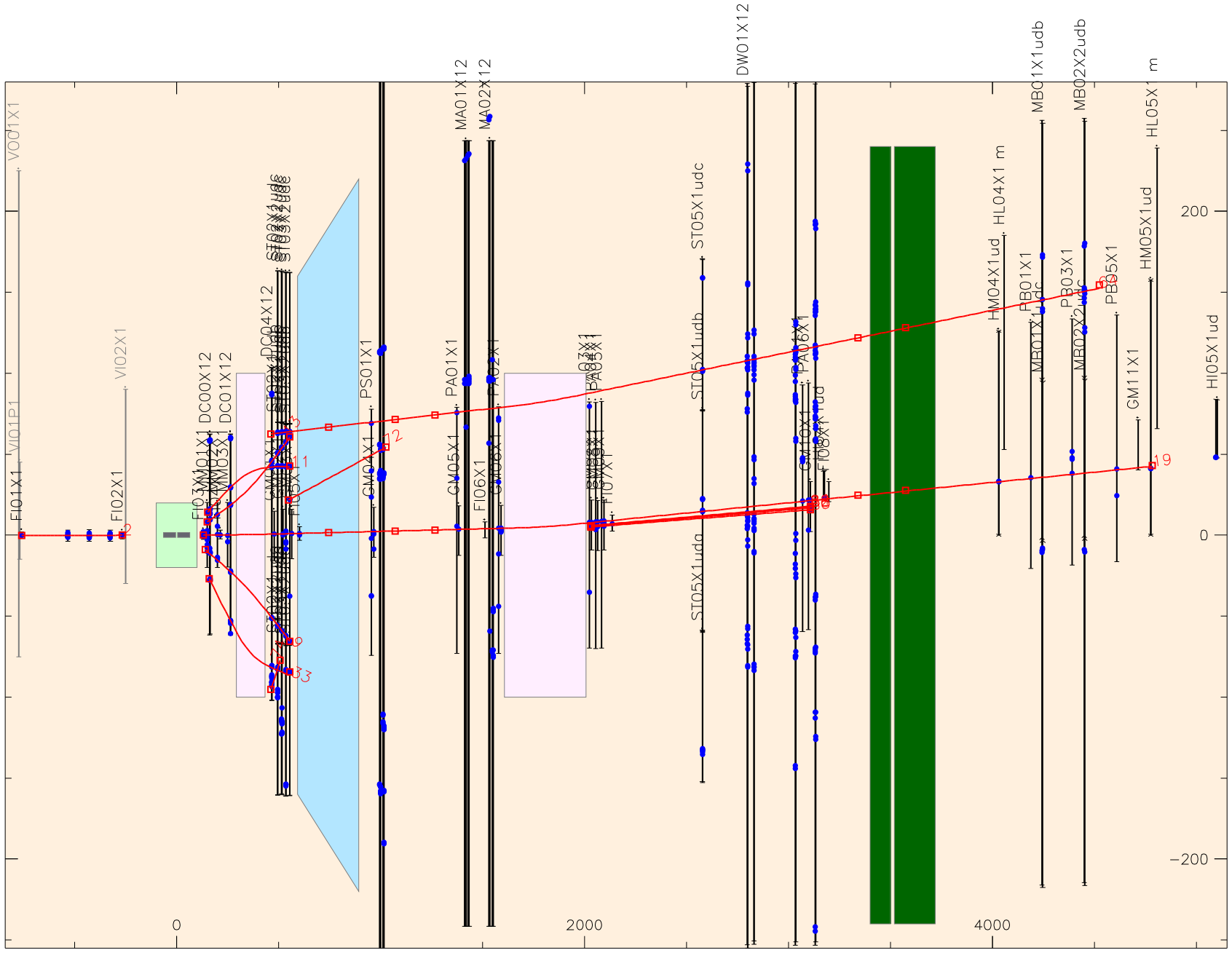
200
0
-200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VI01P1
VI02X1
FI01X1
FI02X1
DC00X12
DC01X12
PS01X1
MA01X12
MA02X12
PA01X1
GM05X1
FI06X1
DW01X12
ST05X1udc
ST05X1udb
ST05X1uda
HM04X1ud
HL04X1 m
MB01X1udb
MB02X2udb
PB03X1
PB05X1
GM11X1
HM05X1ud
HL05X1 m
HI05X1ud
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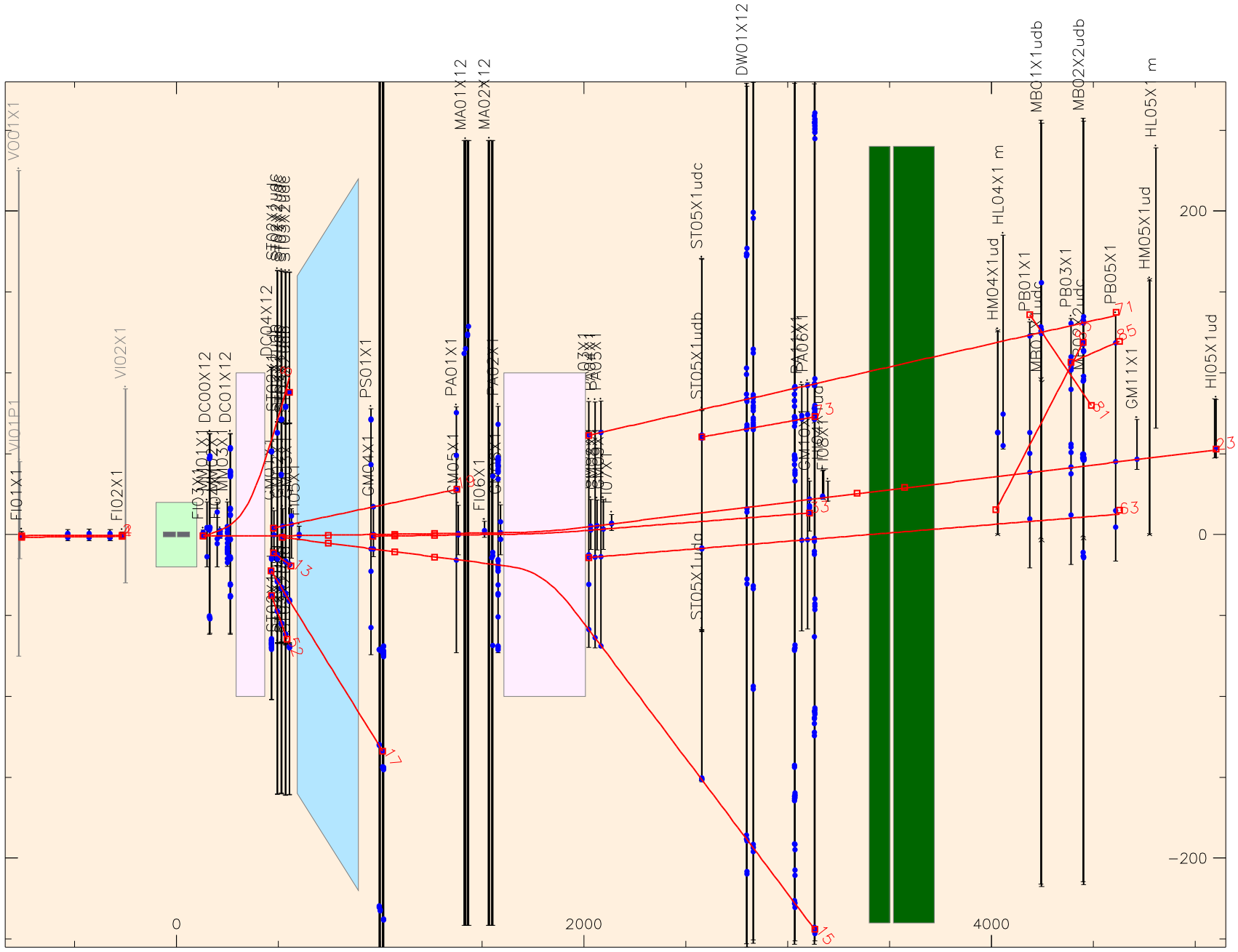
0
−200
0
2000
4000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VI01P1
VI02X1
FI01X1
FI02X1
DC00X12
DC01X12
PS01X1
MA01X12
MA02X12
PA01X1
PA02X1
FI06X1
DW01X12
ST05X1udc
ST05X1udb
ST05X1uda
PA06X1
HM04X1ud
HL04X1 m
MB01X1udb
MB02X2udb
PB01X1
PB03X1
PB05X1
GM11X1
HM05X1ud
HL05X1 m
HI05X1ud
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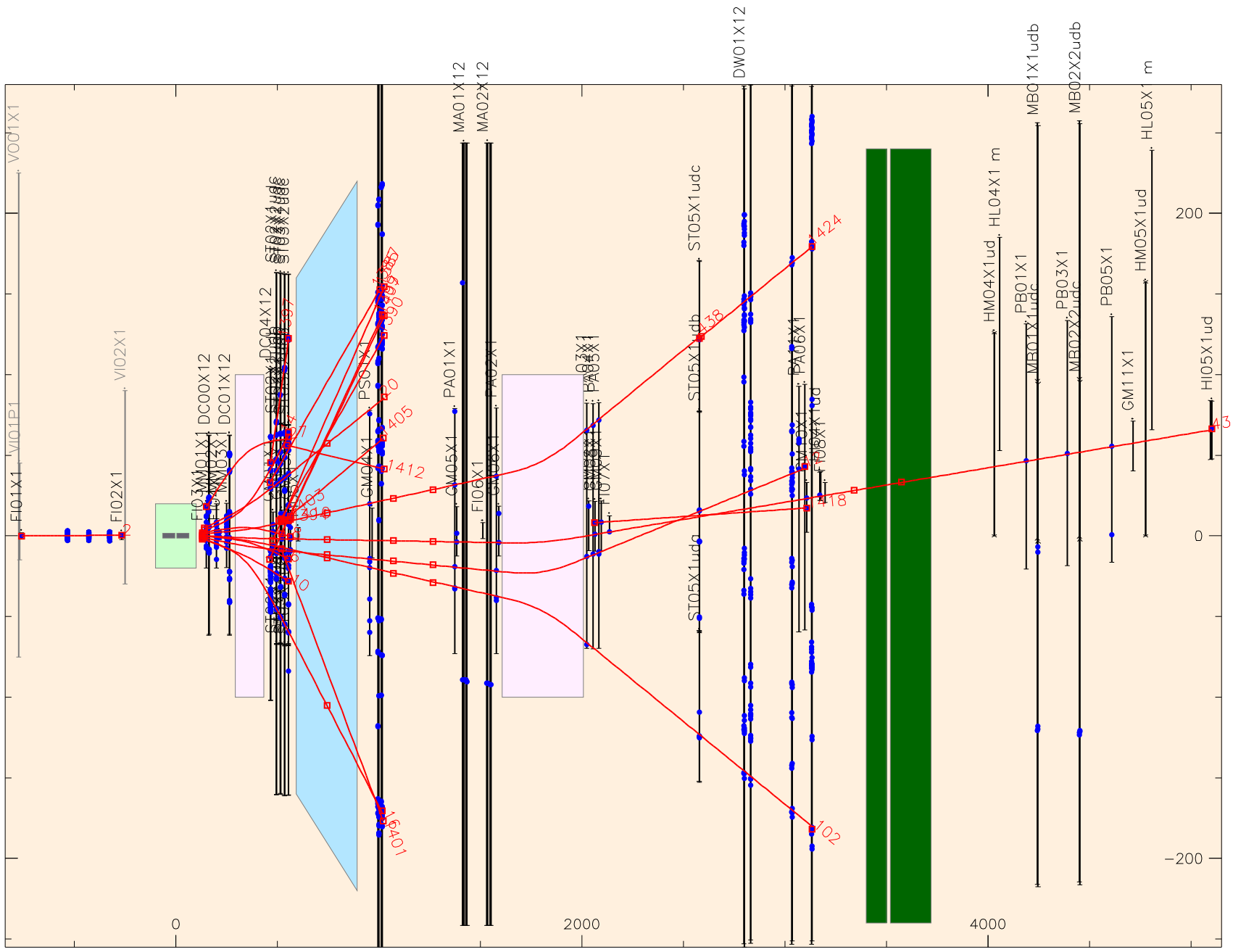
2000
4000
200
0
-200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VI02X1
VI01P1
FI01X1
FI02X1
DC00X12
DC01X12
DC04X12
PS01X1
GM04X1
MA01X12
MA02X12
PA01X1
GM05X1
FI06X1
PA02X1
PA03X1
DW01X12
ST05X1udc
ST05X1udb
PA06X1
HM04X1ud
HL04X1 m
MB01X1udb
MB02X2udb
PB01X1
PB03X1
PB05X1
GM11X1
HM05X1ud
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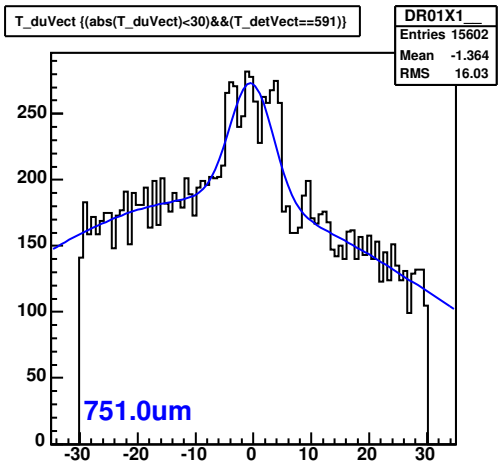
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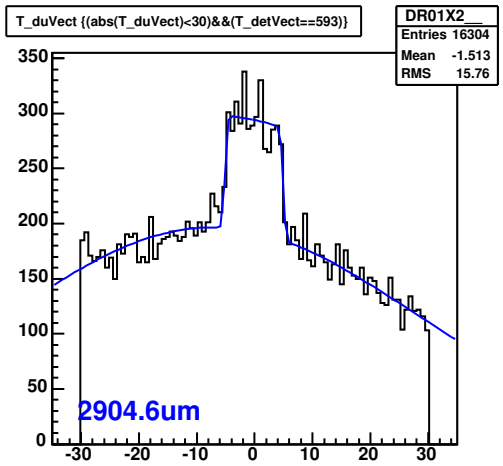
DR01X1__
Entries 15602
Mean -1.364
RMS 16.03
751.0um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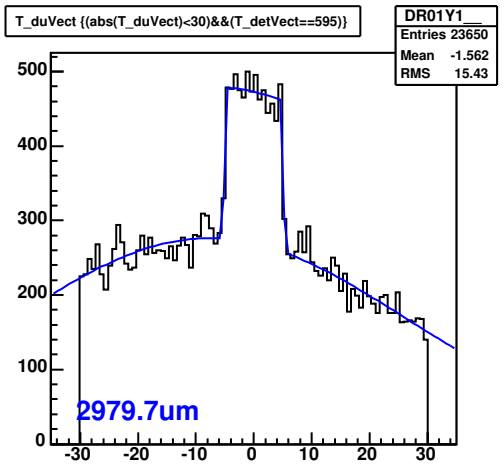
RMS 15.76
2904.6um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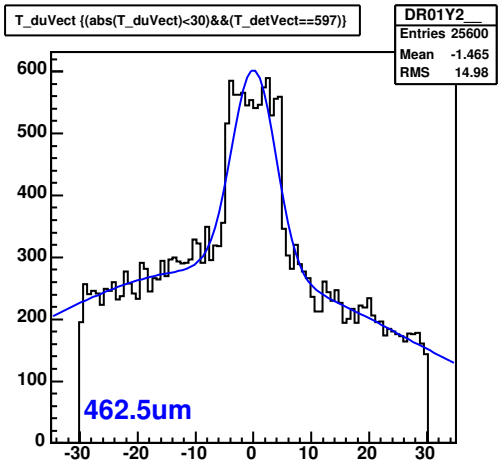
DR01Y1__
Entries 23650
Mean -1.562
RMS 15.43
2979.7um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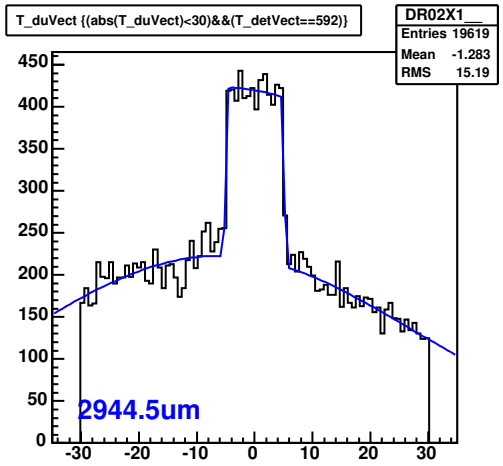
RMS 14.98
462.5um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Entries 19619
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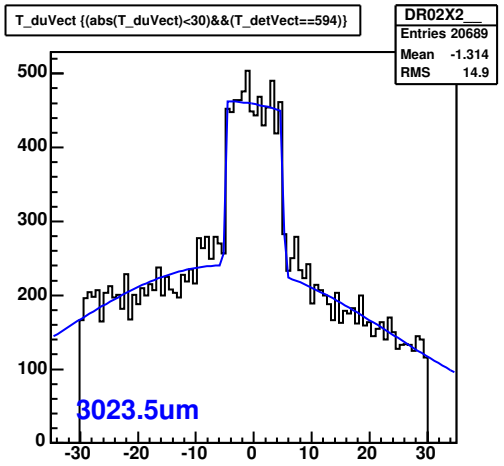
RMS 15.19
2944.5um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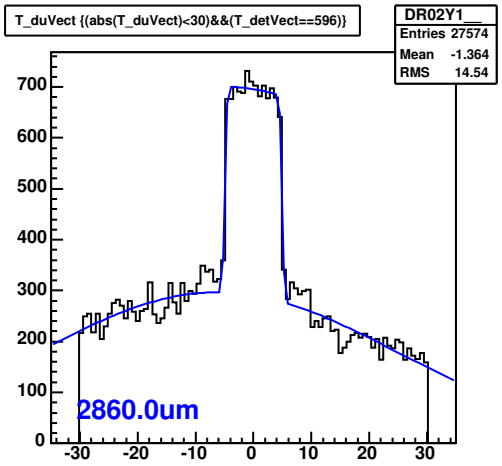
DR02X2__
Entries 20689
Mean -1.314
RMS 14.9
3023.5um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DR02Y1__
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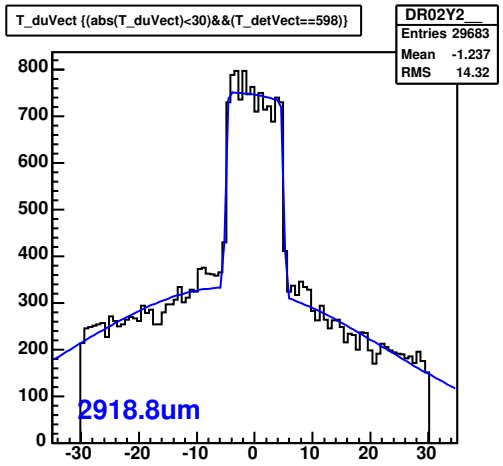
Mean -1.364
RMS 14.54
2860.0um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DR02Y2__
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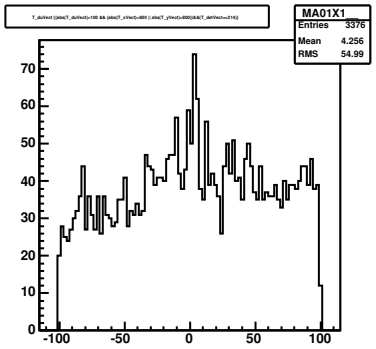
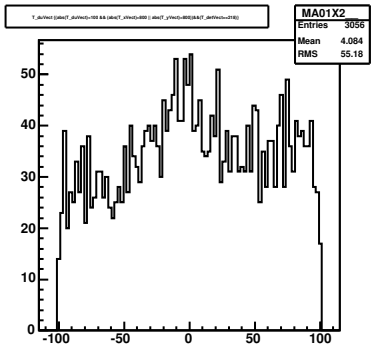
Mean -1.237
RMS 14.32
2918.8um


MA01X1
Entries 3376
Mean 4.256
RMS 54.99


MA01X2
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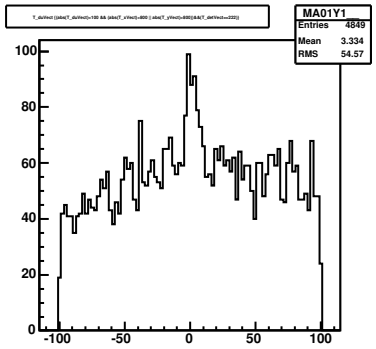
Mean 4.084
RMS 55.18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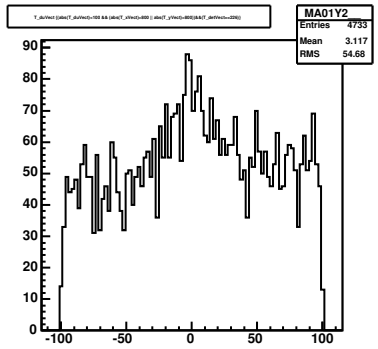
Mean 3.334
RMS 54.57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Entries 4733
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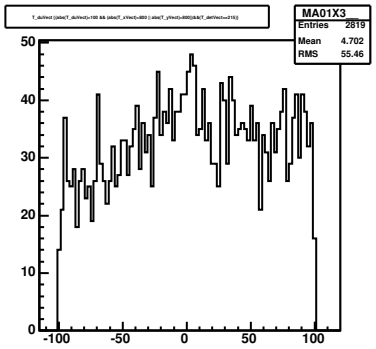
RMS 54.68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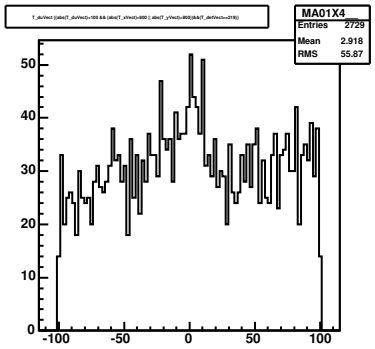
RMS 55.46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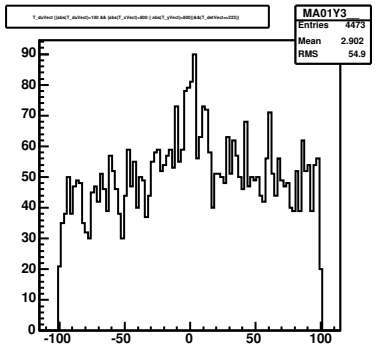
Entries 2729
Mean 2.918
RMS 55.87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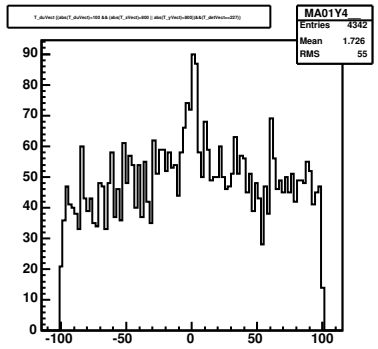
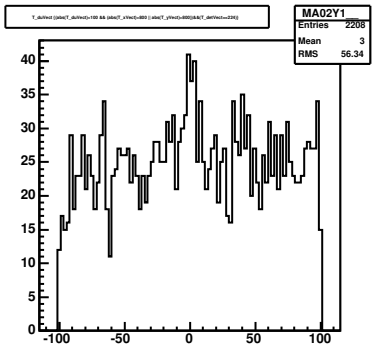
RMS 54.9


MA01Y4
Entries 4342
Mean 1.726
RMS 55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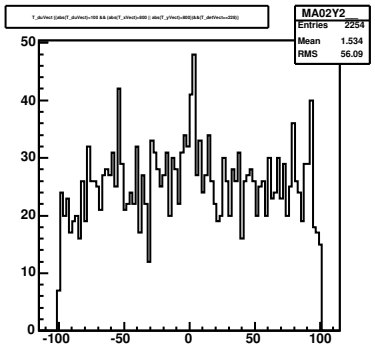
Mean 3
RMS 56.34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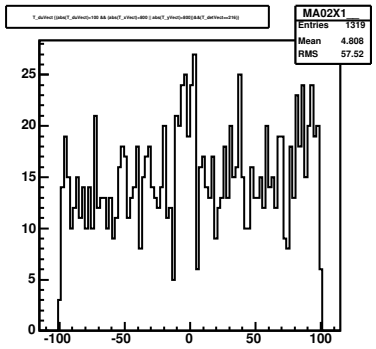
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Entries 1319
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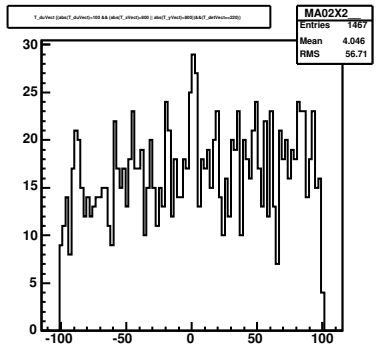
RMS 57.52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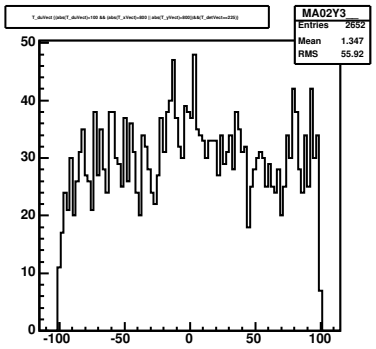
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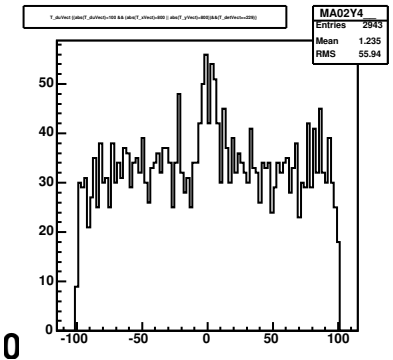
RMS 55.92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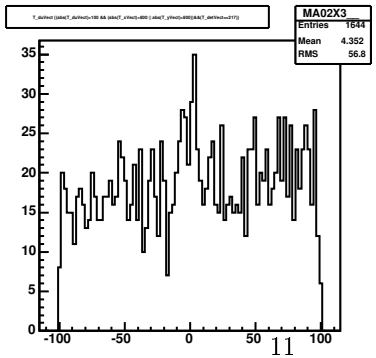
RMS 55.94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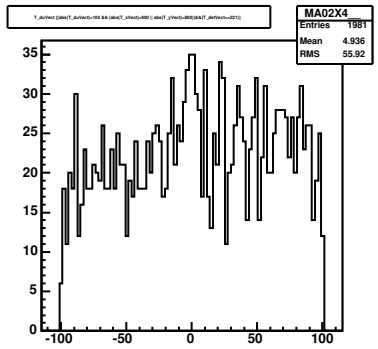
RMS 56.8


MA02X4
Entries 1981
Mean 4.936
RMS 55.92

0