

Analysis Memo

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Analyser

*A1 : beam detectors

F7-2(D1) common ID

*A2 : ICB+ICF(CM), ICB(D1)

*A3 : HODF+HODP(CM), HODF(D1)

*A4 : AMT TDC

FDC2: x2-11, x2-12 switched (CM)

*A5 : DC multiplicity

*A6: TDC selection)

*A9 : DC tracking (1 dim)

*A10: (x,y,x',y') from (x,y) or (x,u,v)

reference plane : detector (vac. box) mid plane

*A11: tracing using known rigidity ($B\rho$ scan)

matching info @FDC2 ref plane

Binary field map: `/home/samurai/exp/exp1205_dayone/analys/bmap/bmap_b"l".bin`

l = 05, 10, 15, 20, 25, 30

file size ~ 10% (+ faster loading)

*A12: rigidity reconstruction

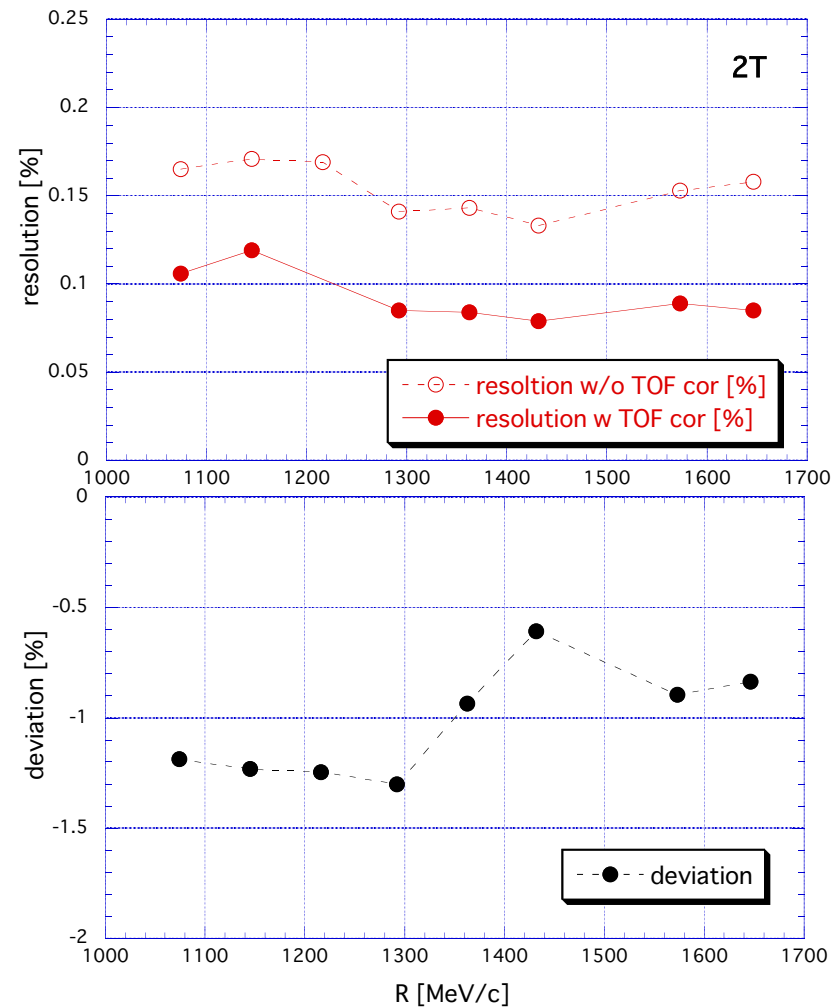
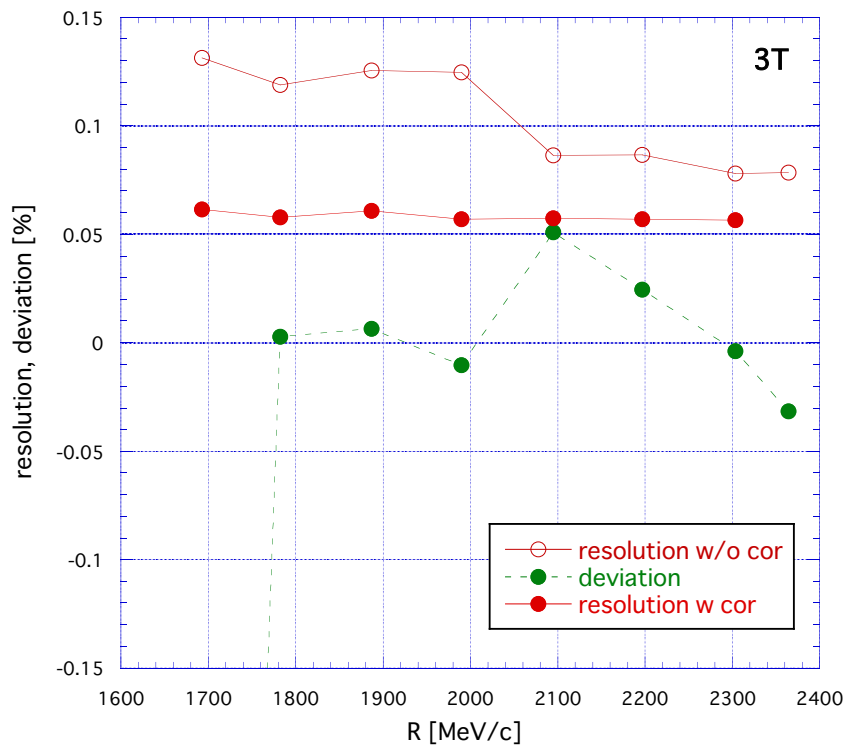
*A13: rigidity correction (beam)

Analysis till mid June

*Detector position ?

adjust relative positions of BDC1, BDC2, FDC1

adjust FDC2 position for matching between traced track & track in FDC2

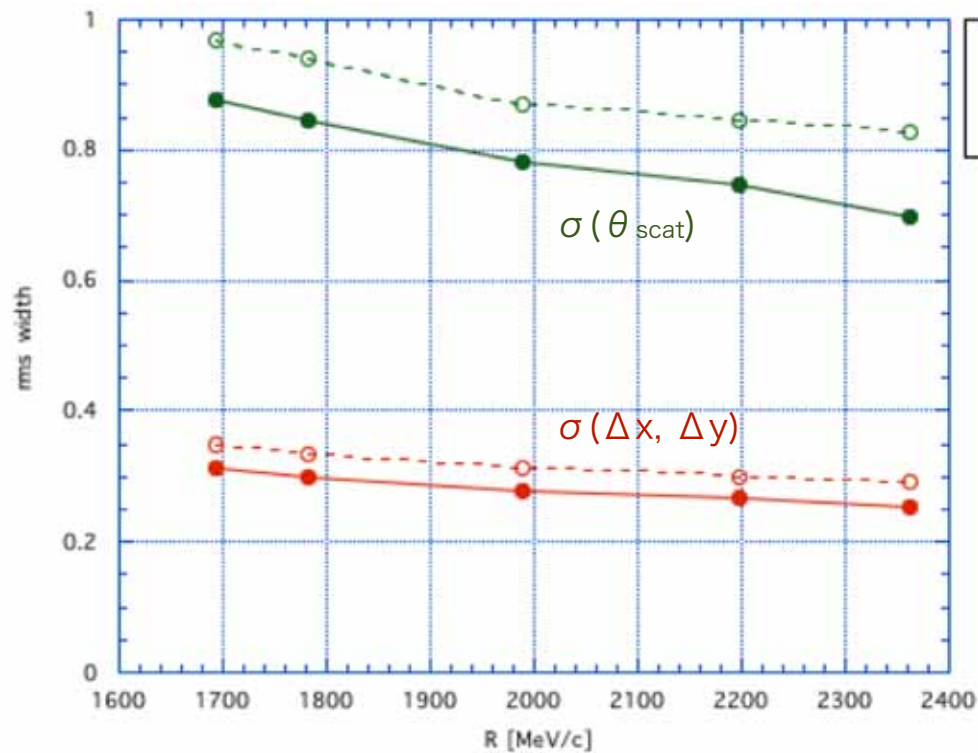


Position matching : BDC1, BDC1, FDC1

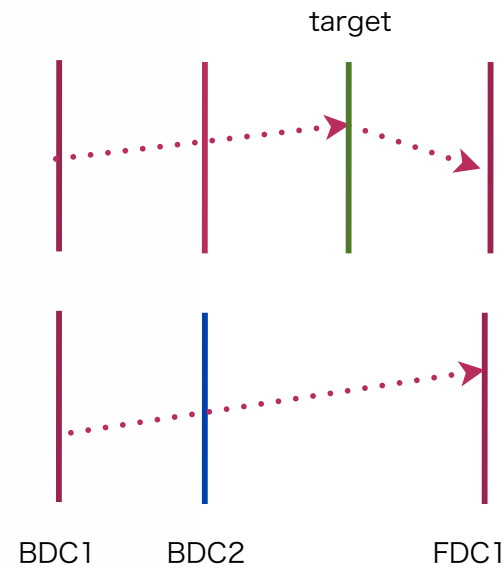
*BDC1+FDC2 -> BDC2

$\Delta x, \Delta y : < 0.01 \text{ mm}$

$\sigma(\Delta x, \Delta y) < 0.3 \text{ mm}$



STC : Be @r195



*after photometry summary: 10-Jul-2012 Otsu

*target position ?

B ρ scan @3T

*Rigidity in samurai

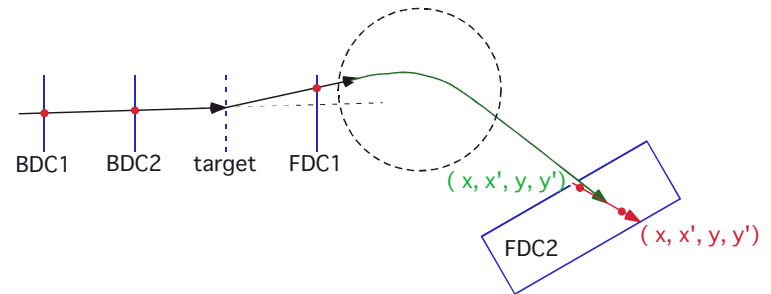
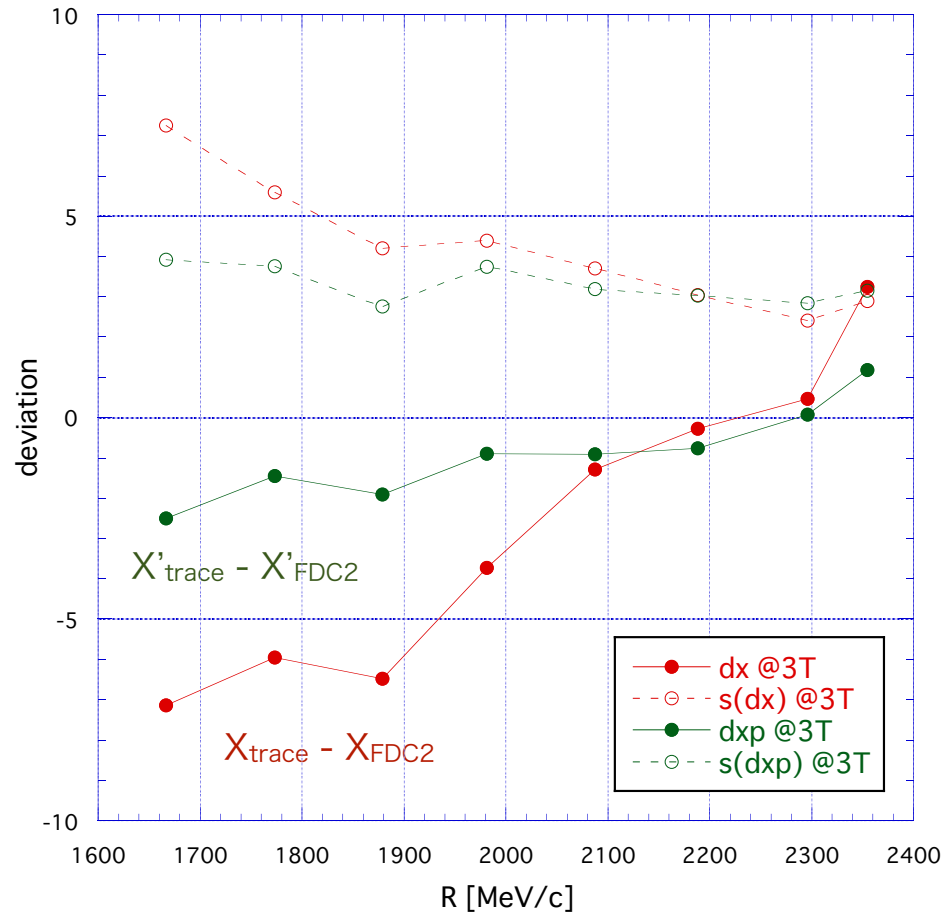
| "B ρ " | beam | B ρ_{F5} | B ρ_{SM} | R $_{SM}$ [MeV/c] | T [MeV/u] | run# | | |
|-------------|------------------|---------------|---------------|----------------------|-----------|------|--|--|
| 5.60 | ^{10}Be | 5.639 | 5.560 | 1667 | 214 | 199 | | |
| 5.95 | ^{10}Be | 5.987 | 5.916 | 1774 | 239 | 197 | | |
| 6.30 | ^{10}Be | 6.333 | 6.268 | 1879 | 265 | 195 | | |
| 6.65 | ^{11}Be | 6.678 | 6.609 | 1981 | 246 | 201 | | |
| 7.00 | ^{11}Be | 7.027 | 6.963 | 2088 | 270 | 219 | | |
| 7.35 | ^{12}Be | 7.368 | 7.300 | 2189 | 252 | 207 | | |
| 7.70 | ^{12}Be | 7.721 | 7.658 | 2296 | 274 | 209 | | |
| 7.90 | ^{14}Be | 7.933 | 7.855 | 2355 | 218 | 217 | | |

* ΔE correction

F7(3 t)+F13(1 t +1 t)+various material

Bρ scan @3T

*position/angle matching @FDC2



D ~ 33mm/%

運動量が-25%変化

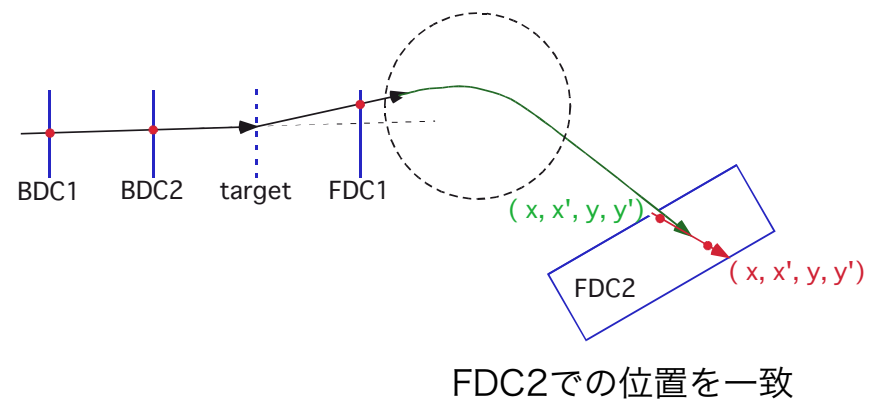
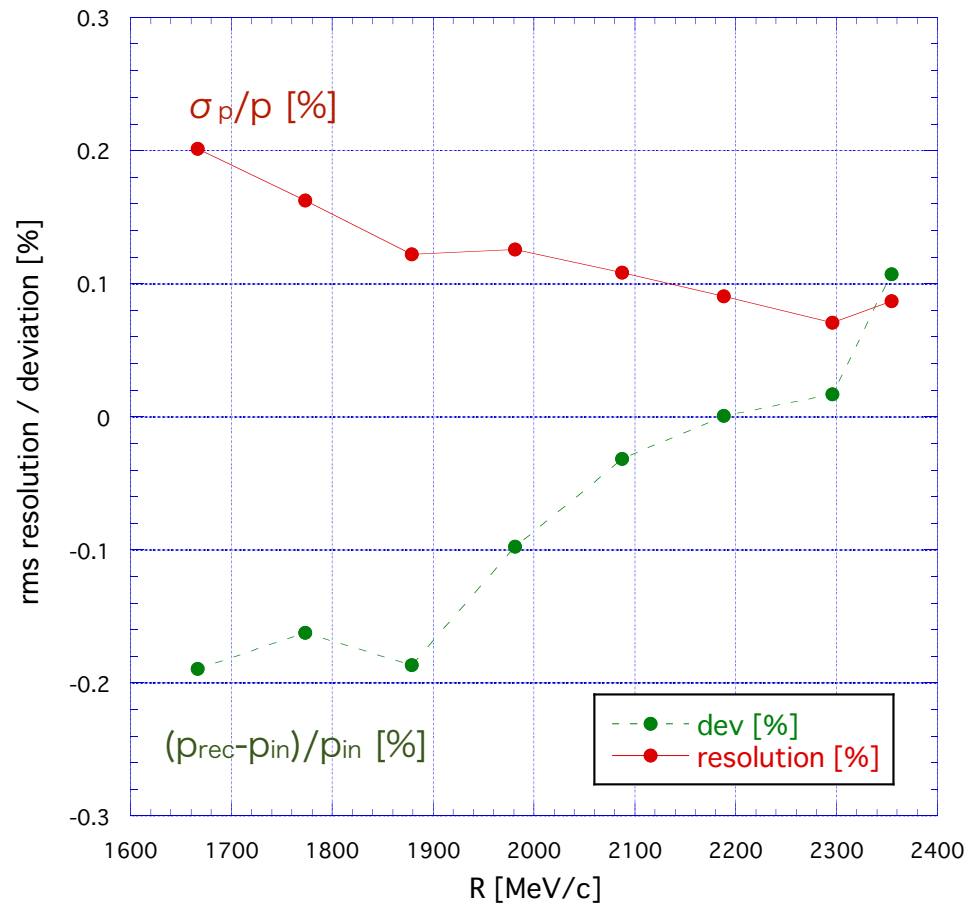
→ 絶対値のずれ~0.2%

localで絶対値を合わせたい時は

磁場をscale

Momentum Reconstruction @3T

Bρ scan data @3T

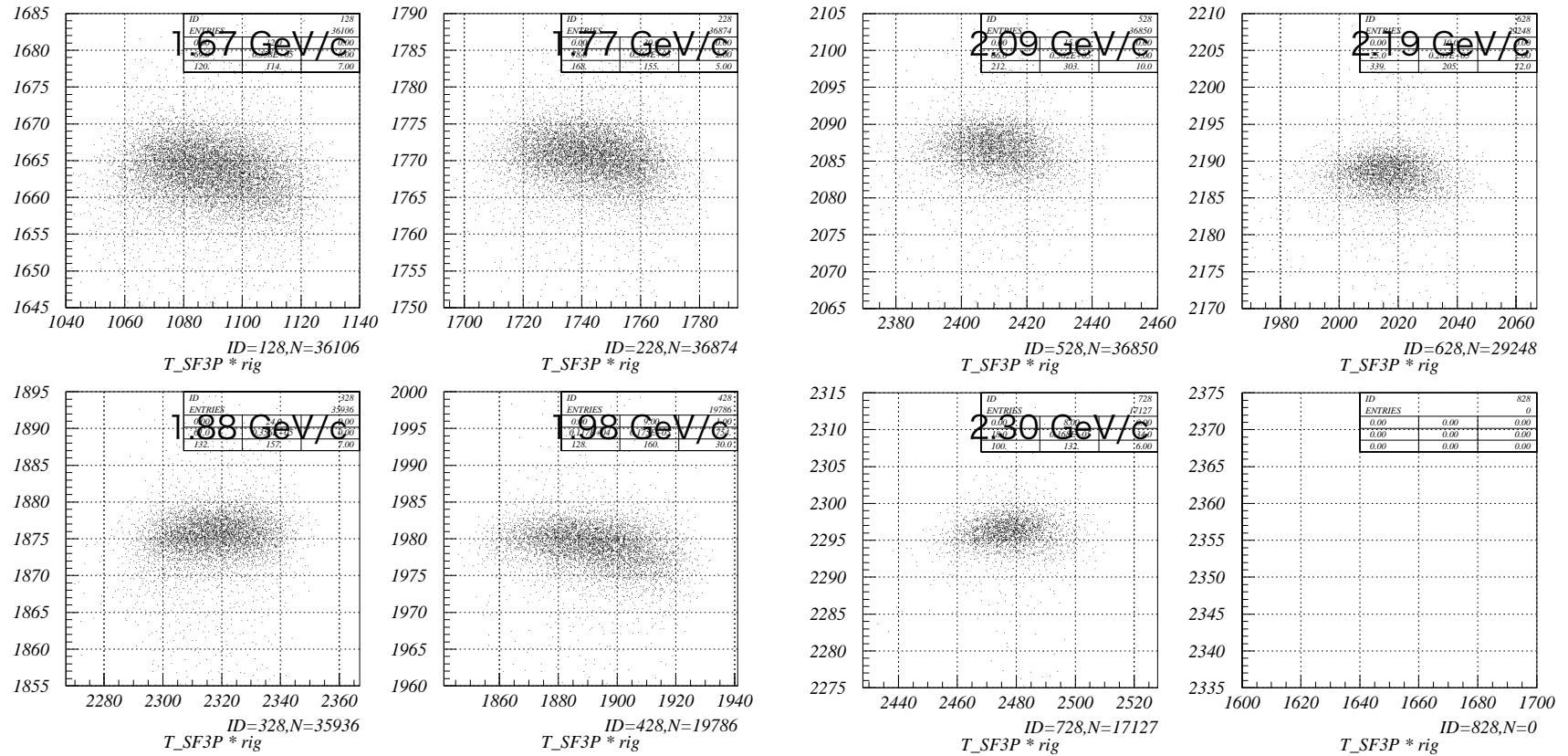


*w/o TOF_{beam} correction

Momentum Reconstruction @3T

correlation with TOF_{beam}

$F1 = \pm 1 \text{ mm}$



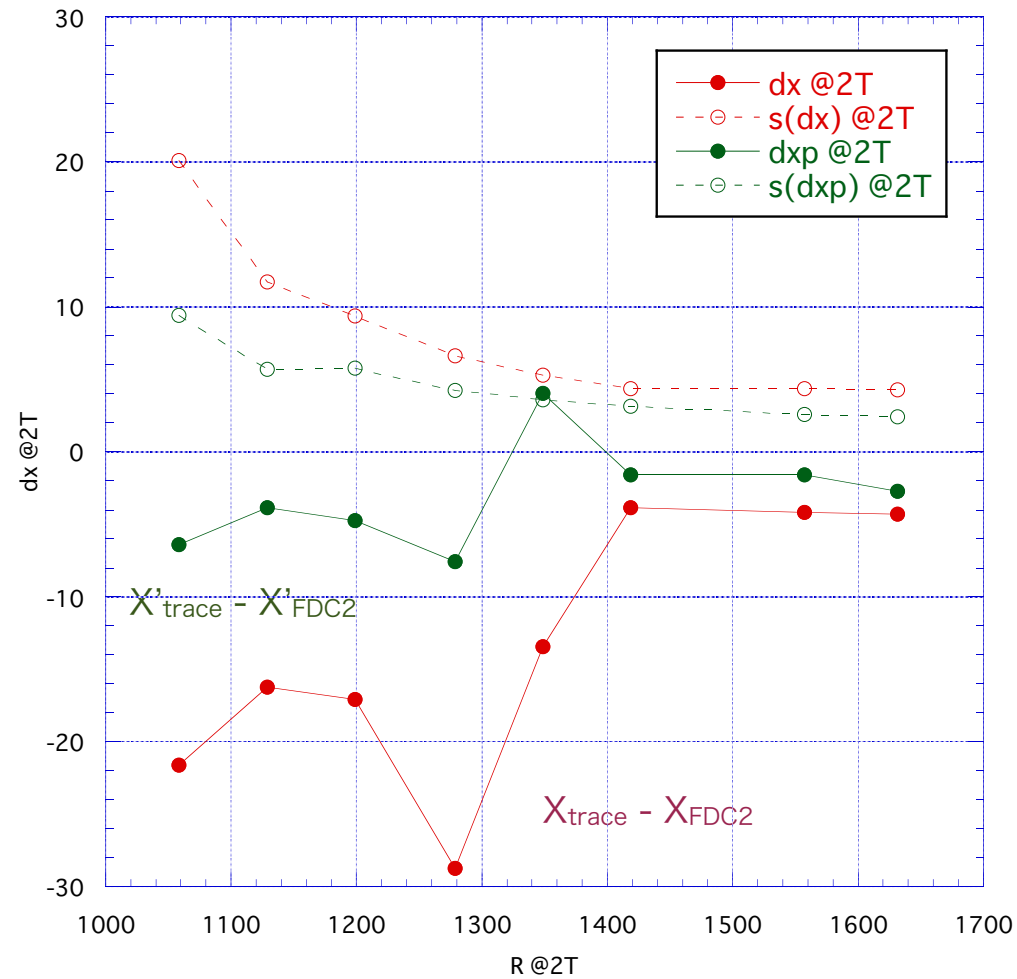
B ρ scan @2T

*Rigidity in samurai

| "B ρ " | beam | B ρ_{F5} | B ρ_{SM} | R $_{SM}$ [MeV/c] | T [MeV/u] | run# | | |
|-------------|-----------------|---------------|---------------|----------------------|-----------|------|--|--|
| 3.60 | ¹⁰ C | 3.658 | 3.531 | 1159 | 196 | 245 | | |
| 3.84 | ¹¹ C | 3.900 | 3.765 | 1129 | 185 | 241 | | |
| 4.08 | ¹² C | 4.141 | 3.999 | 1199 | 176 | 237 | | |
| 4.32 | ¹¹ C | 4.375 | 4.266 | 1279 | 232 | 239 | | |
| 4.56 | ¹² C | 4.614 | 4.499 | 1349 | 218 | 233 | | |
| 4.80 | ¹² C | 4.838 | 4.732 | 1419 | 239 | 231 | | |
| 5.28 | ¹⁵ C | 5.327 | 5.194 | 1557 | 189 | 227 | | |
| 5.52 | ¹⁵ C | 5.564 | 5.442 | 1631 | 205 | 229 | | |

Bρ scan @2T

*position/angle matching @FDC2

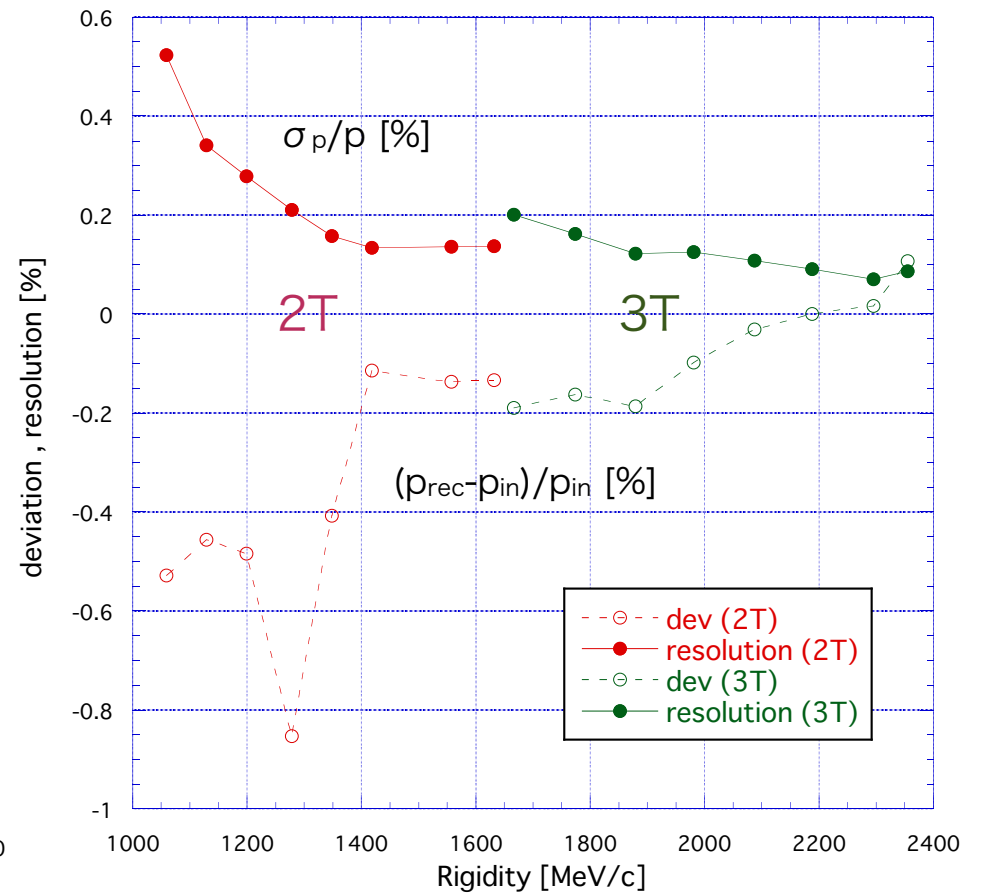
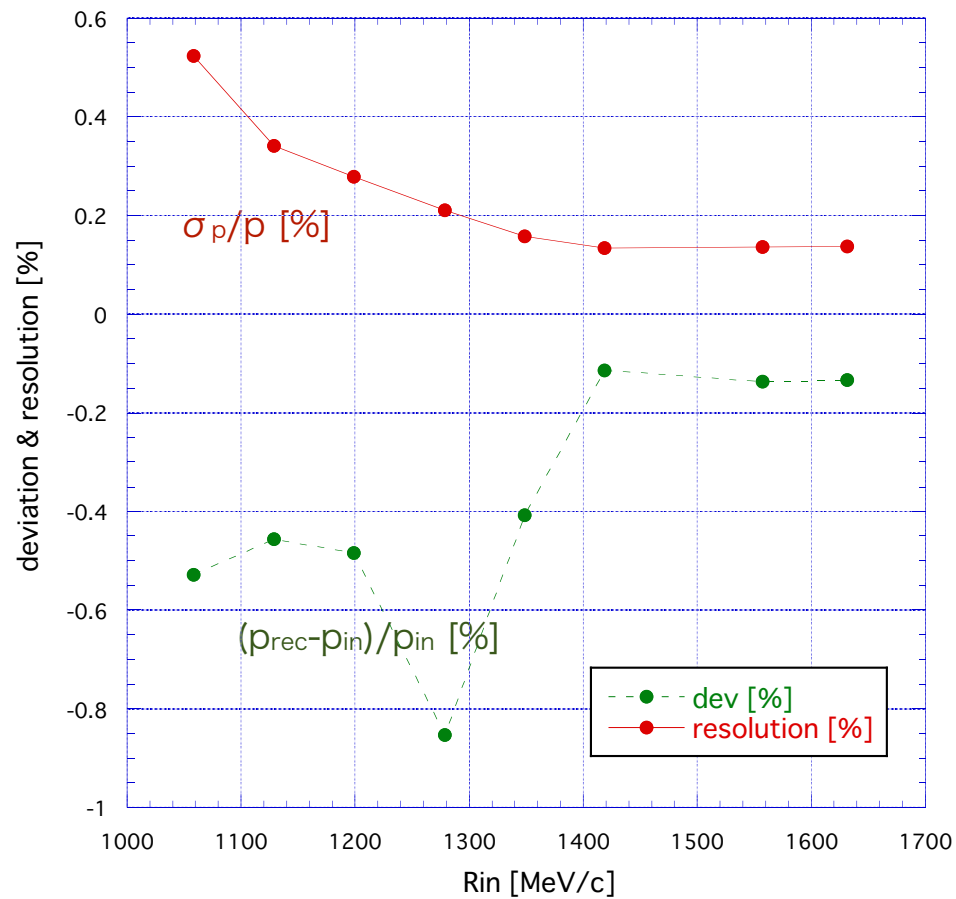


*high momentum側の3点: OK

*残り? 思案中

Momentum Reconstruction @2T

Bρ scan data @2T



*w/o TOF_{beam} correction

@28-Sep-2012

- *解析にもっと時間を
- * B ρ scanのデータ
 - *@2.5T
 - *energy-loss correction
 - *absolute rigidity
 - *data @2.0T
- *STC
 - *inclined track