TPOL offline status

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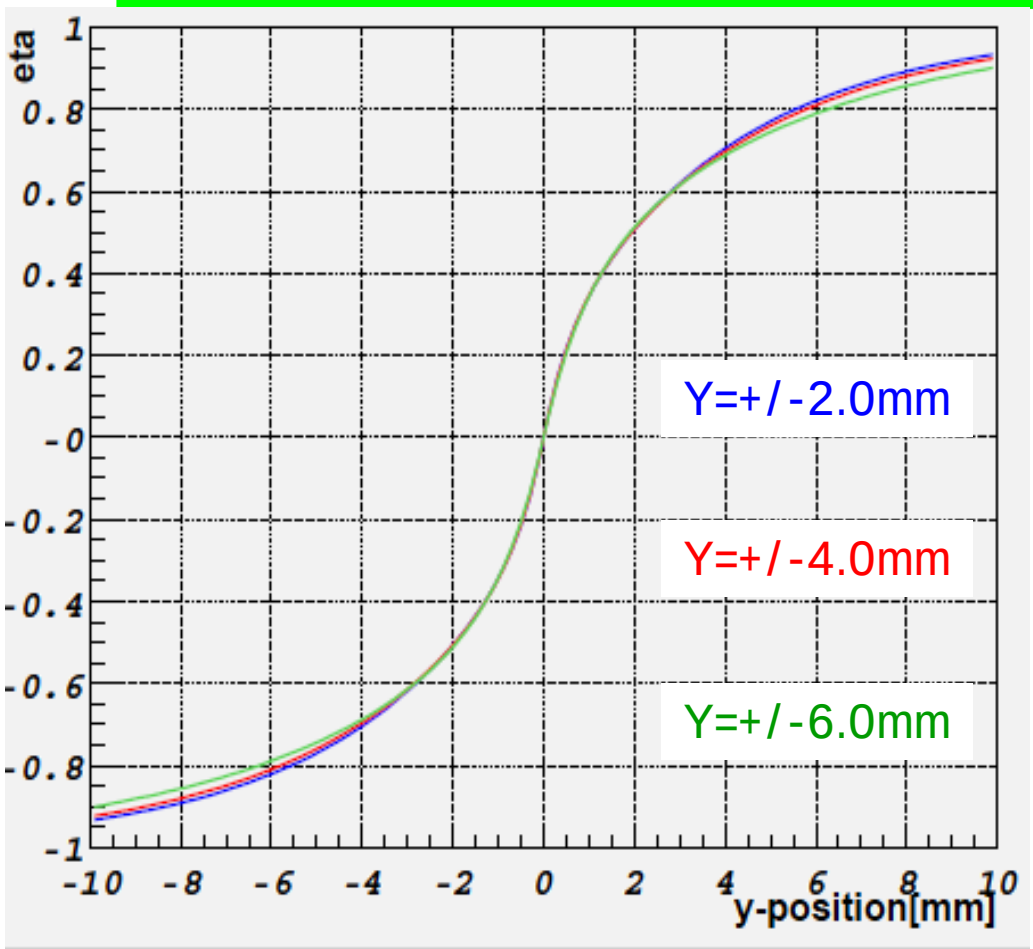
- Table scan
- Study on the y-range dependence of parameters.
  - eta-y parameters fixed.
  - beamsize fixed
  - sumS1((S1R+S1L)/2) fixed
- Study on the eta-range dependence.
- Study on the beamsize dependence.
- Summary & Future plan.

Table scan



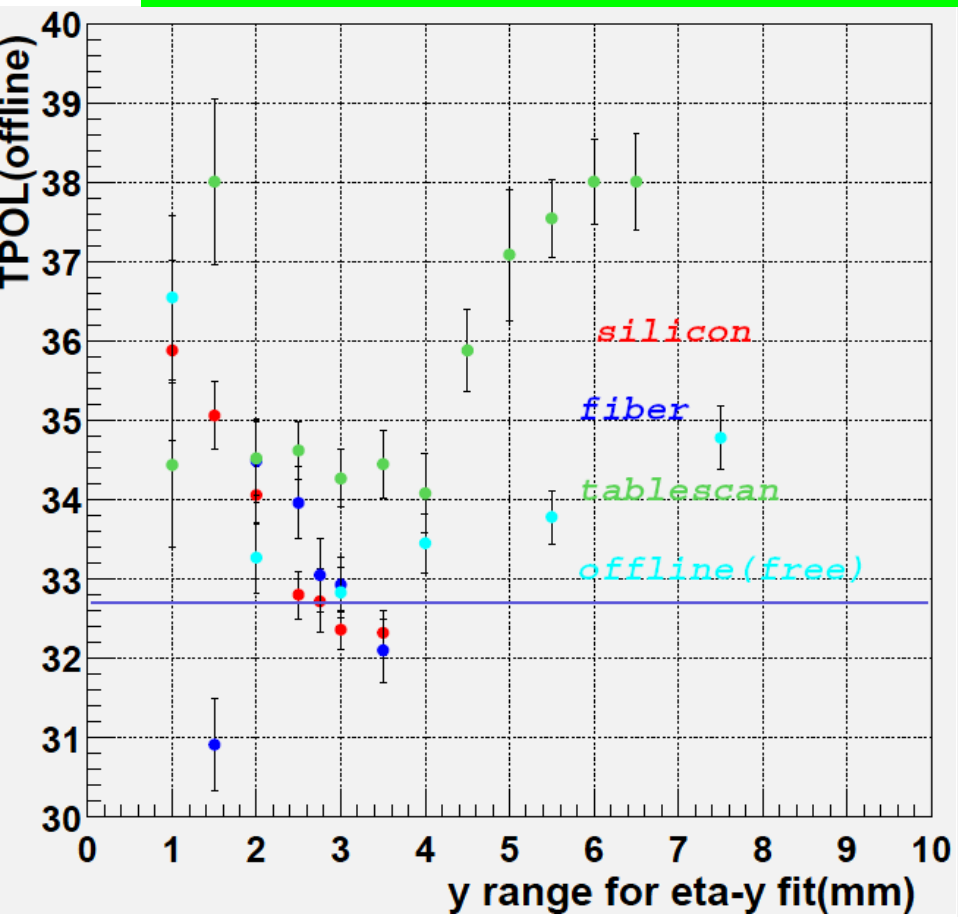
- 27th.Apr.2004
- Scan range
  - y=-5.0mm~+5.0mm.
  - 0.5mm step.

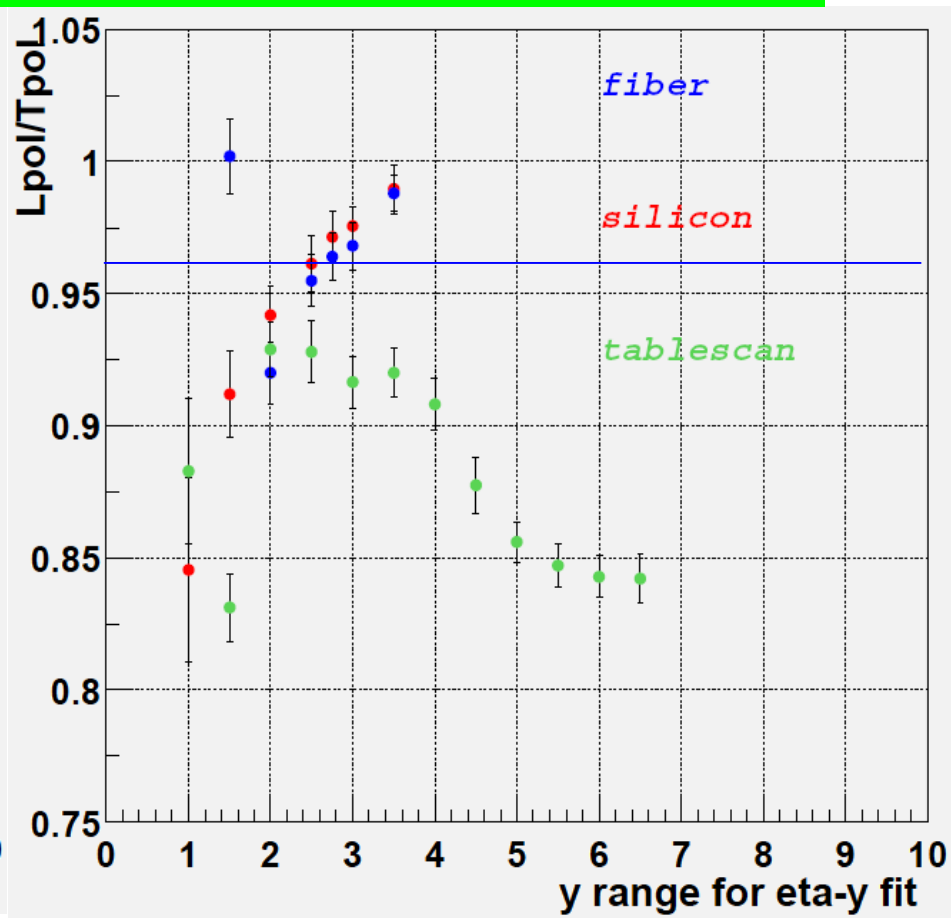
The eta-y curves are almost same, even when fitting range is different.

Study on the y-range dependence

- Purpose.
  - To check stability of the offline method against y.
    - To see this, the y-range used in the offline method was varied(eta-range was varied correspondingly).
- Data used to extract eta-y fitting parameters.
  - Silicon/Fiber.(7th.Mar.2004)
  - table scan(27th.Apr.2004)
- CAL Data sample for offline method.
  - 7th.Mar.2004.
    - Check y-range dependence with one data sample

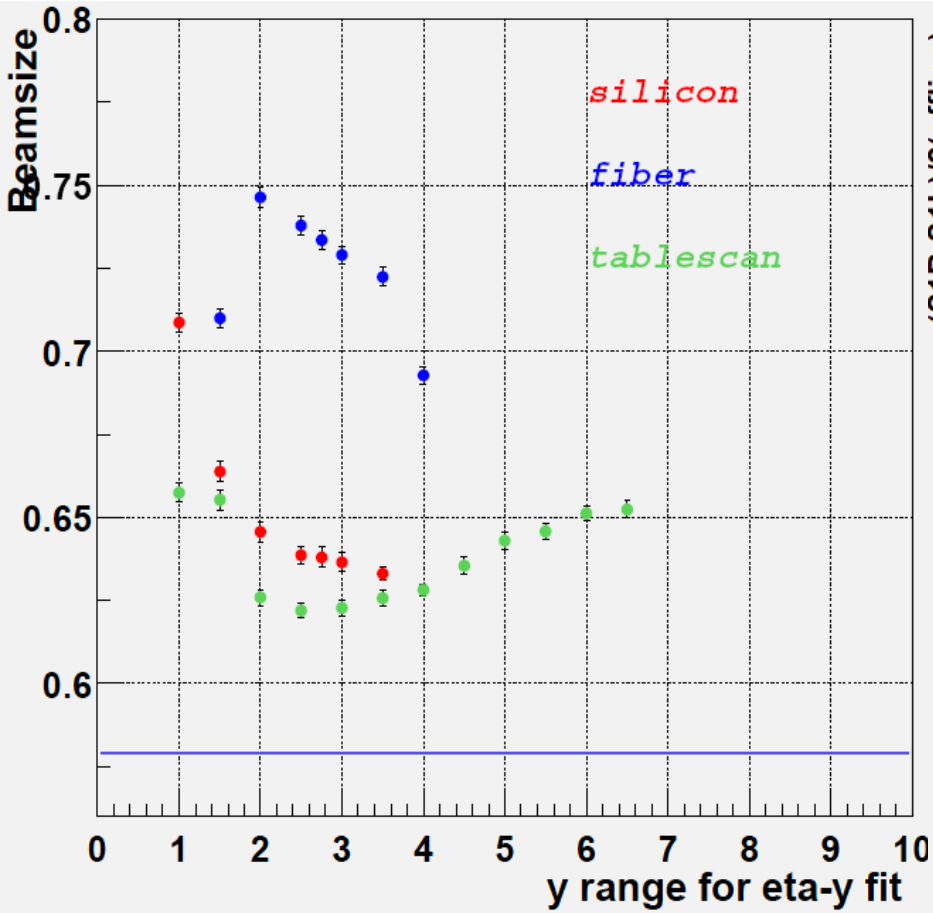
Offline fit with eta-y fixed

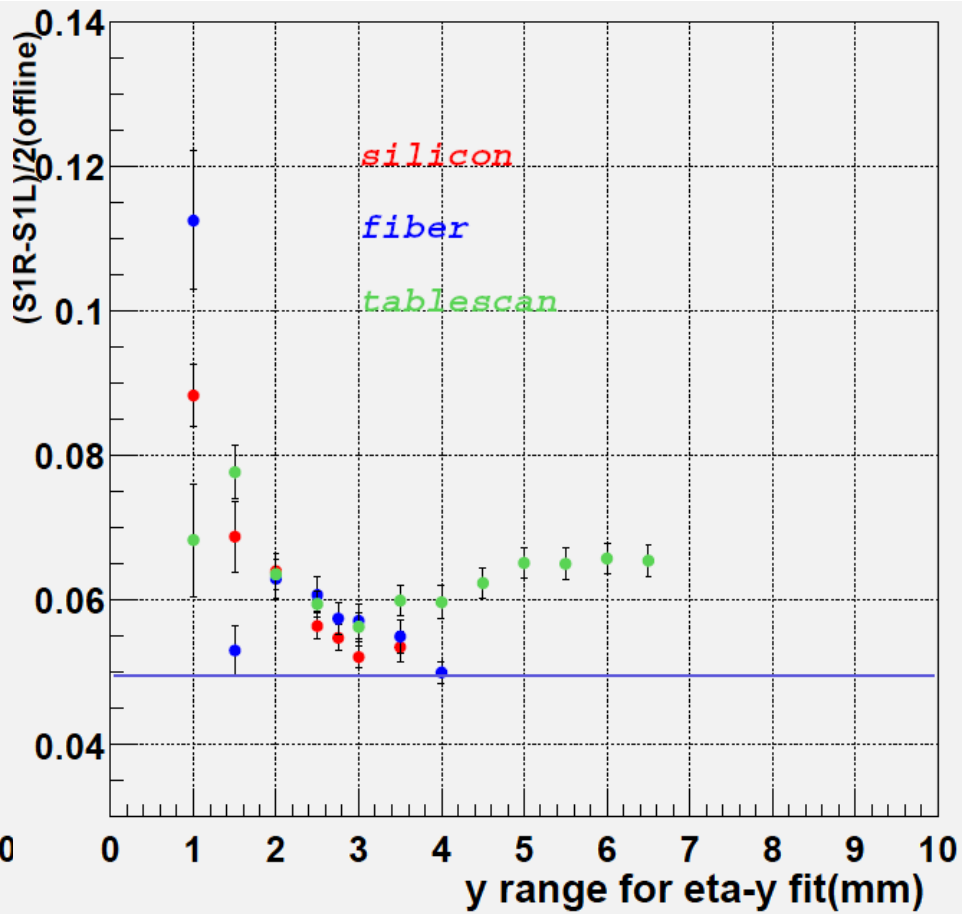




Parameters obtained from offline method are not stable in y-range,although eta-y curves are almost same.

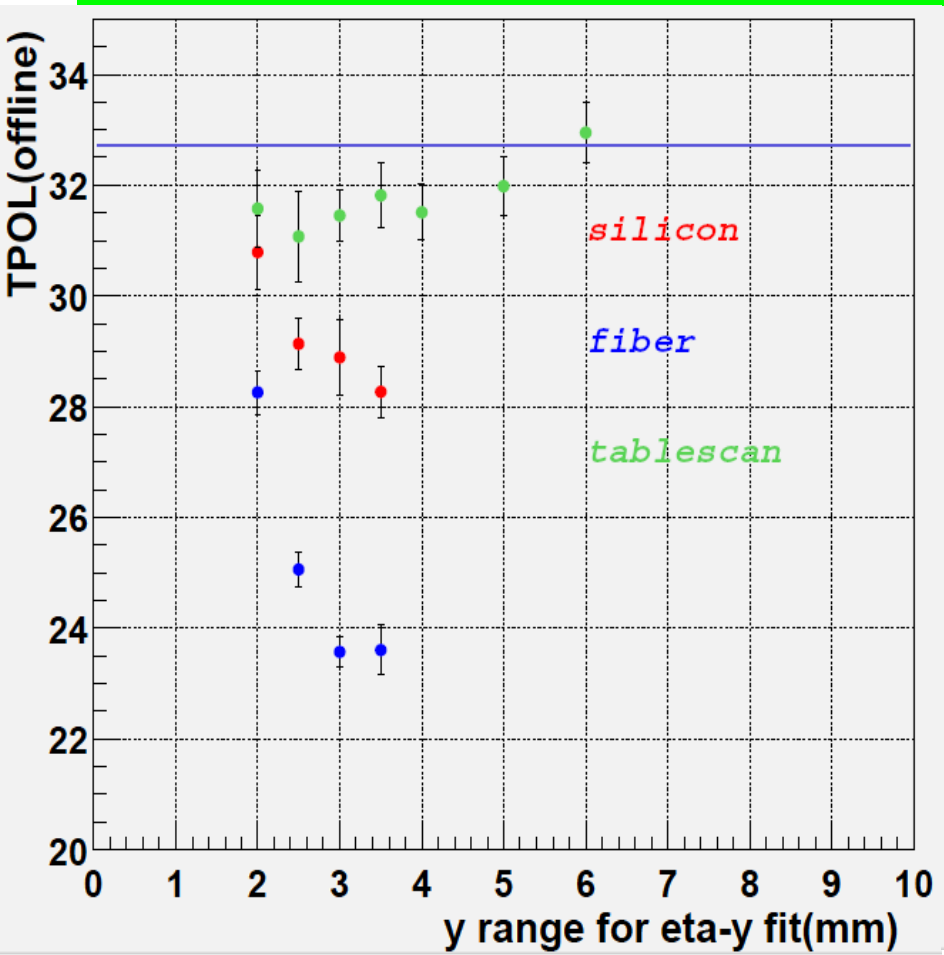
Offline fit with eta-y fixed

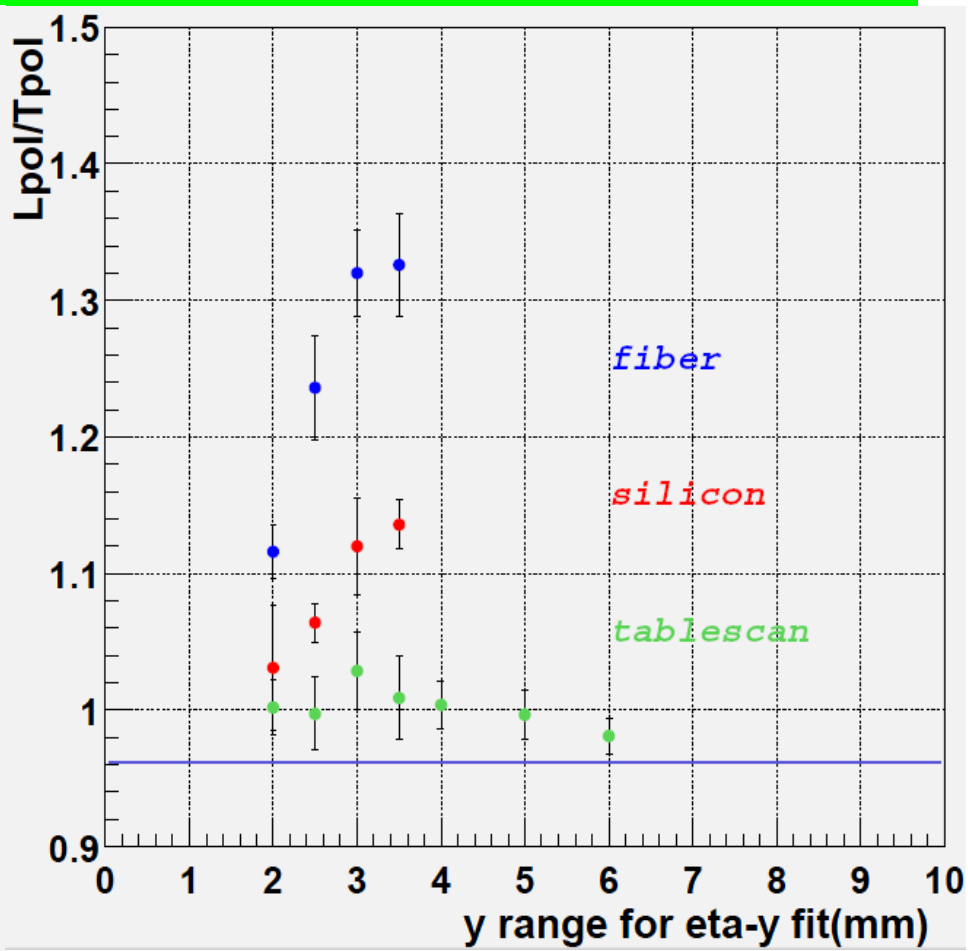




As for beamsize、the difference between fiber and silicon is larger than other fitting parameters.

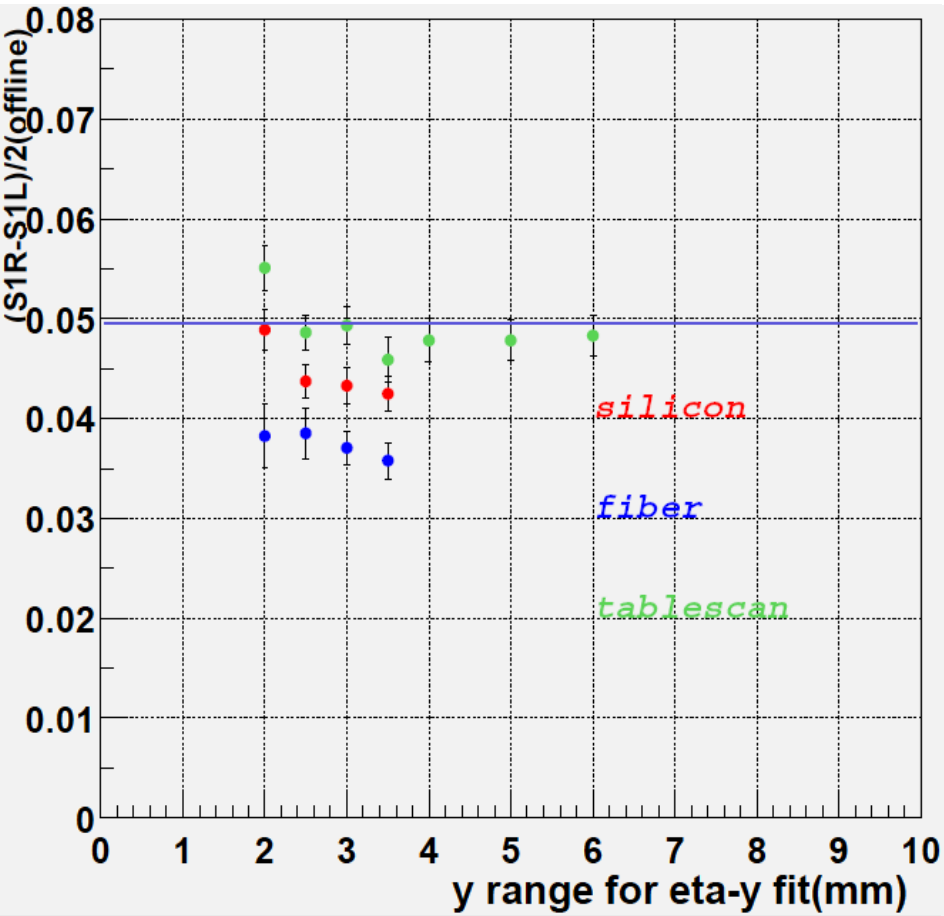
Offline fit with beamsize fixed

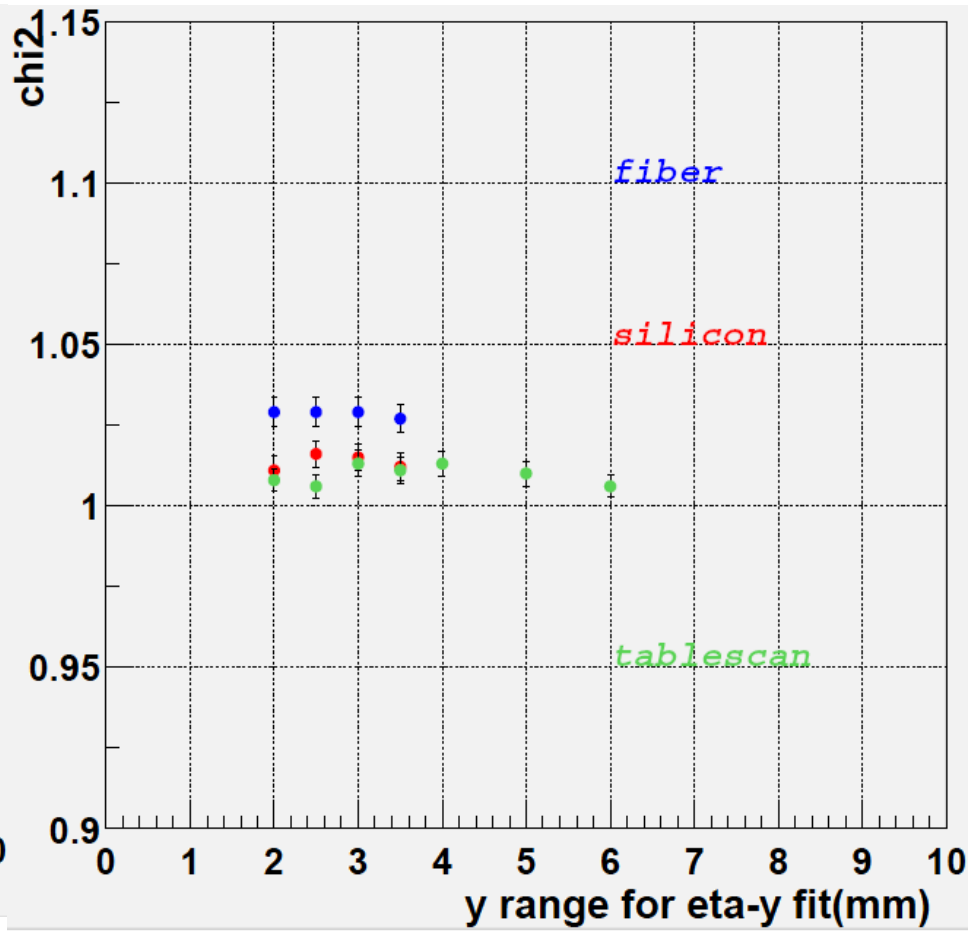




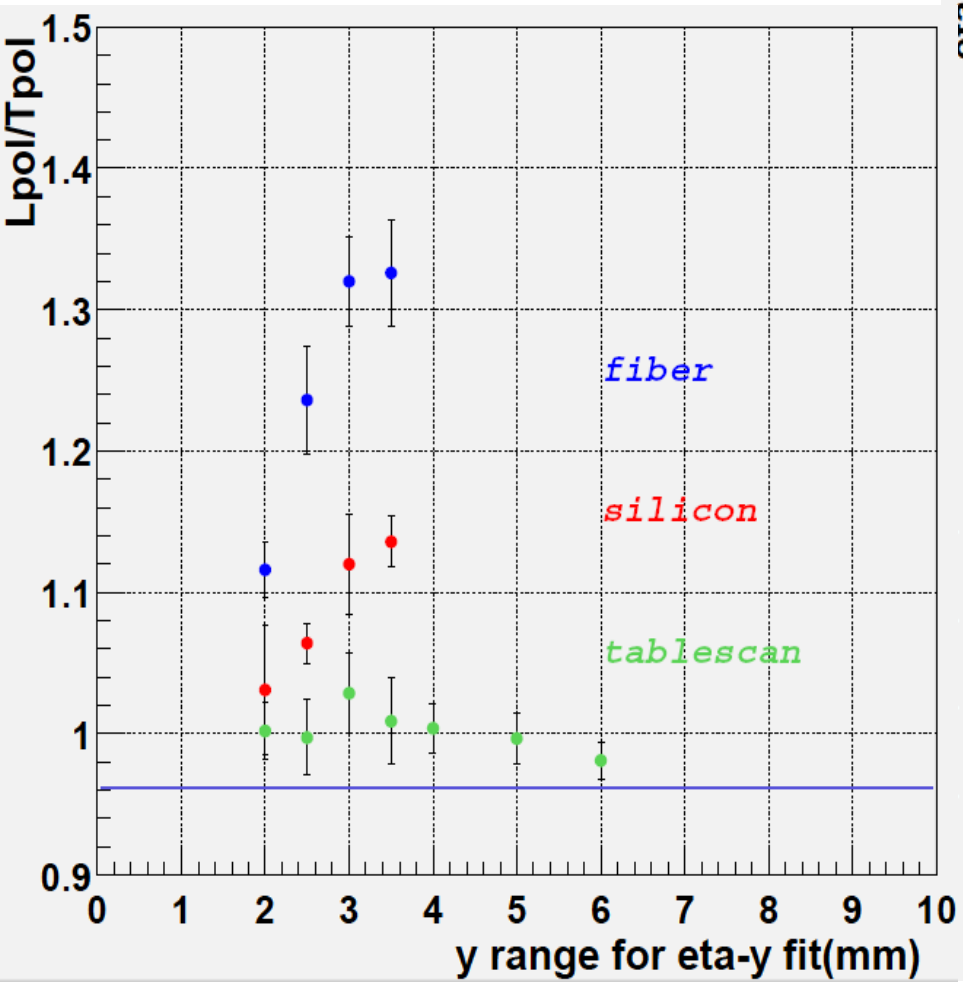
Polarization from offline method with tablescan is stable in y.

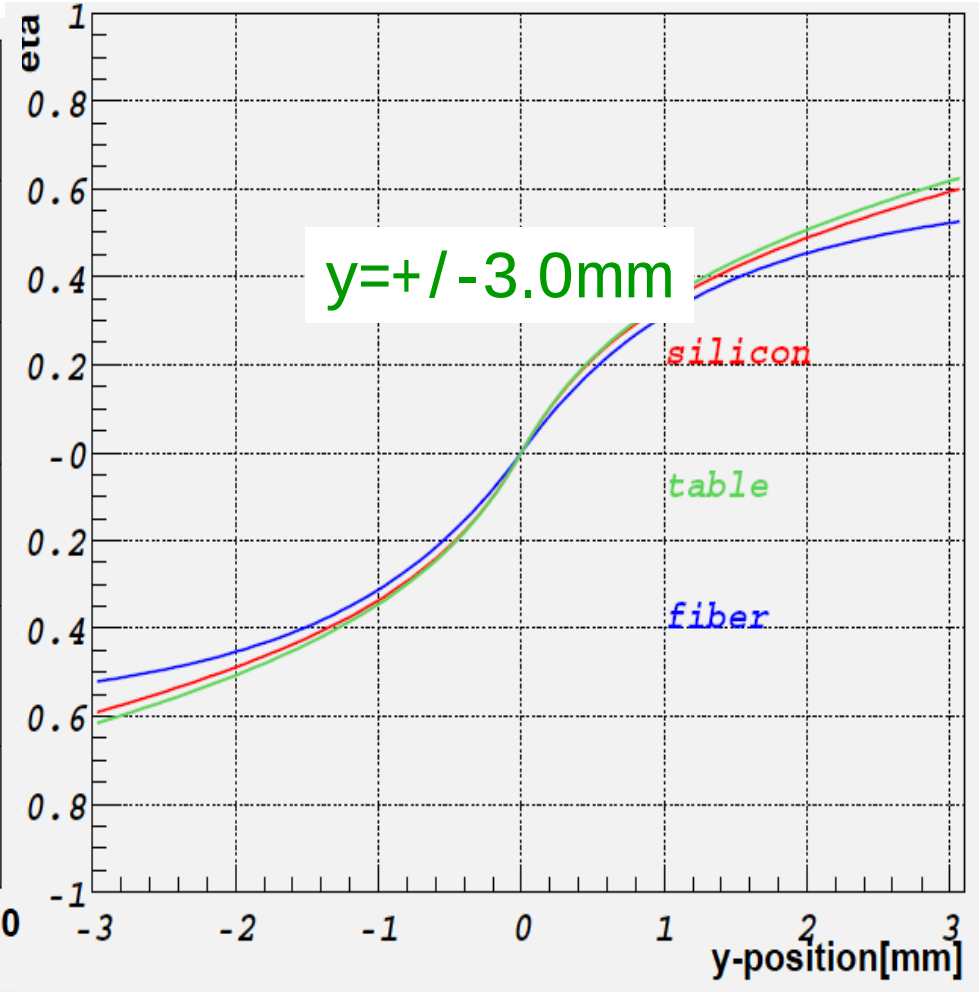
Offline fit with beamsize fixed





It seems to be consistent in online and offline analysis when using this data(7th.Mar.2004).

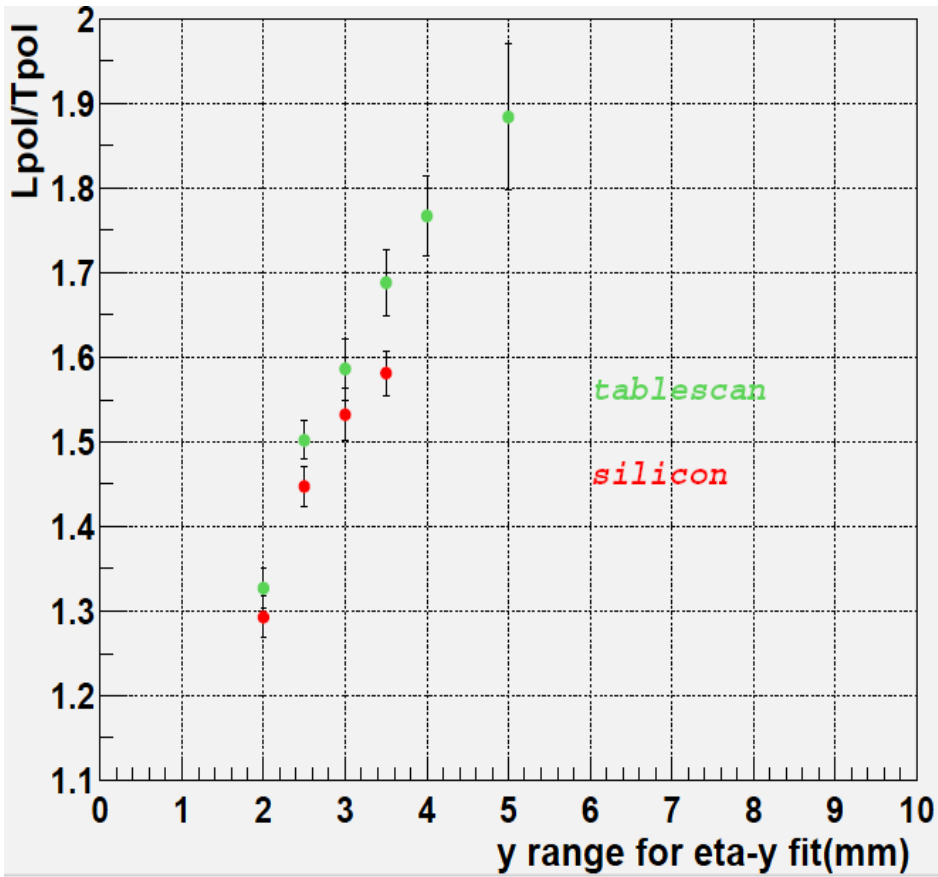


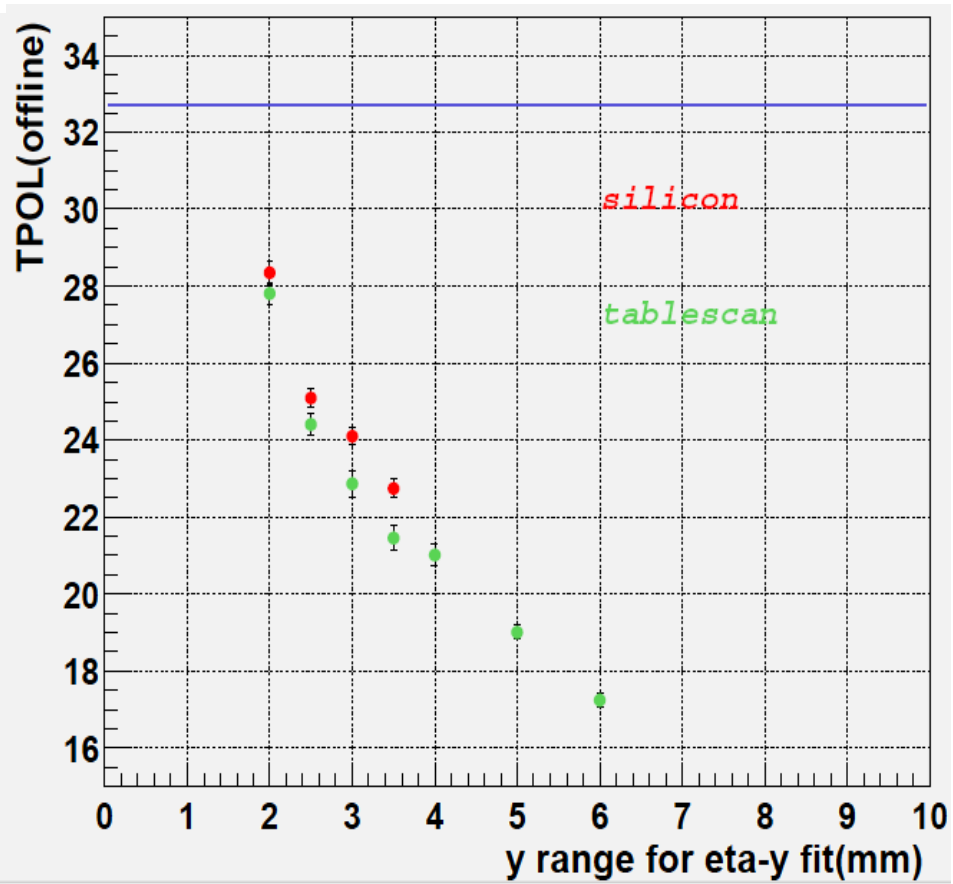


The difference of eta-y curve at each fitting range reflects on parameters from offline fiiting

→it seems to be reasonable to be beamsize fixed.

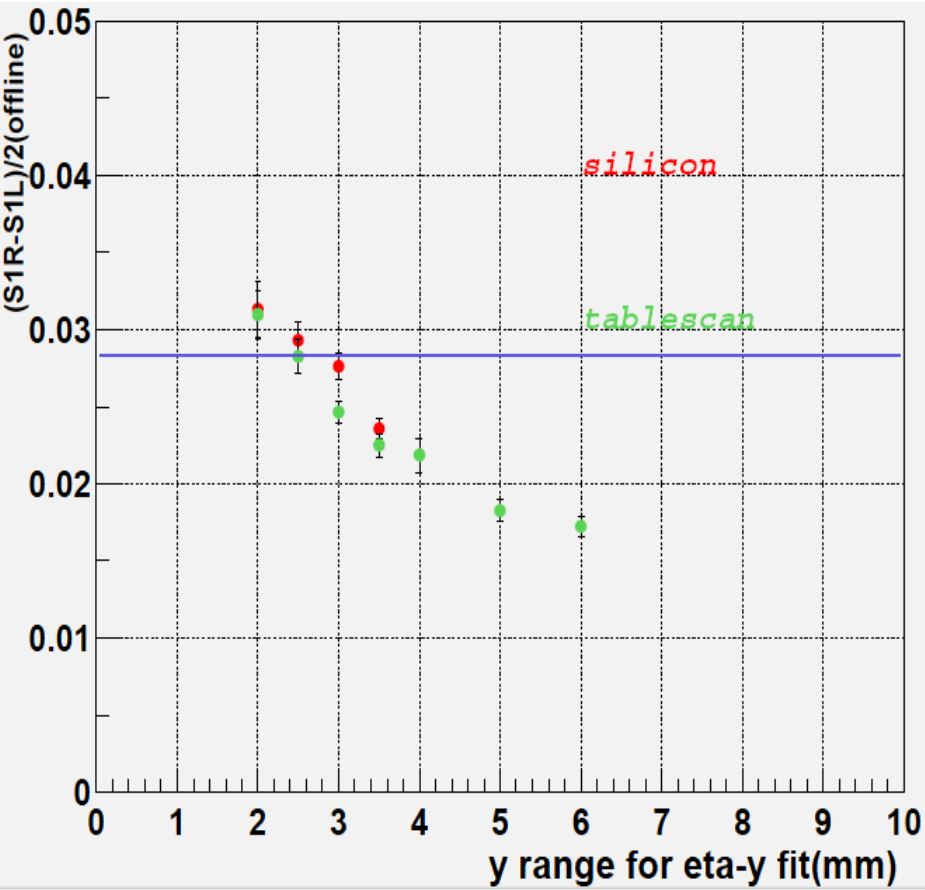
Beamsize fixed on 31st.Jan.2004

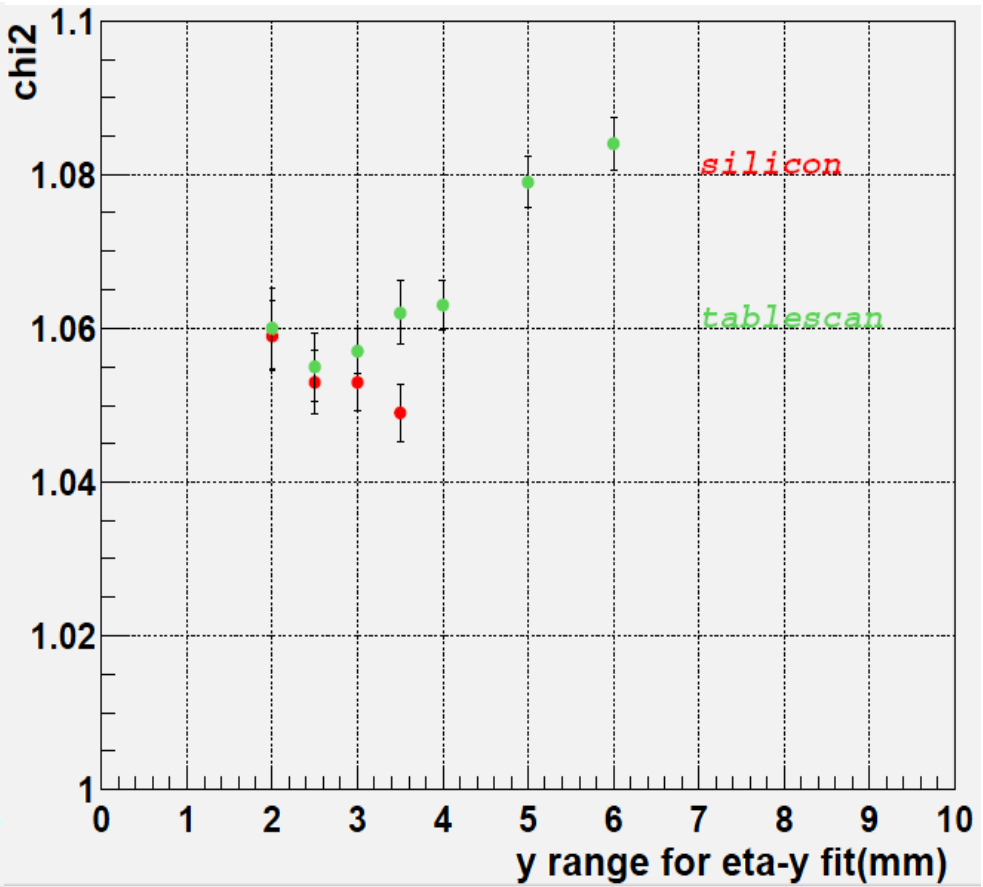




Polarization from offline method depends on y-range strongly with data on 31st.Mar.2004.

Beamsize fixed on 31st.Jan.2004

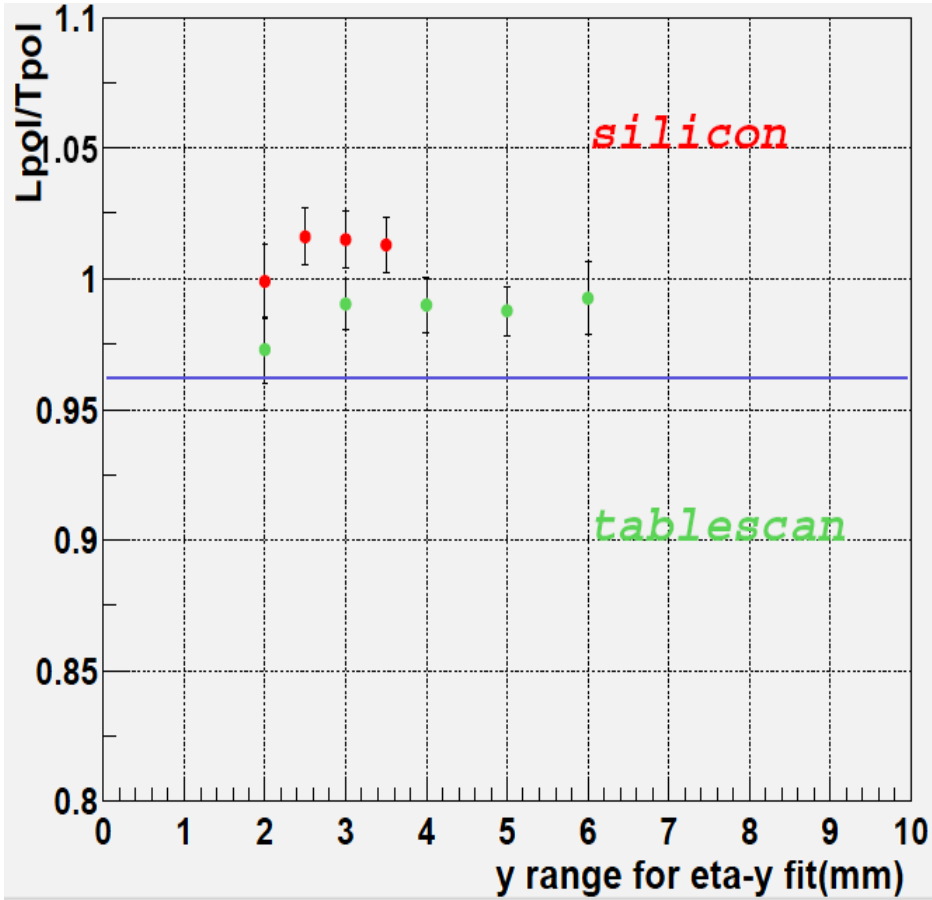


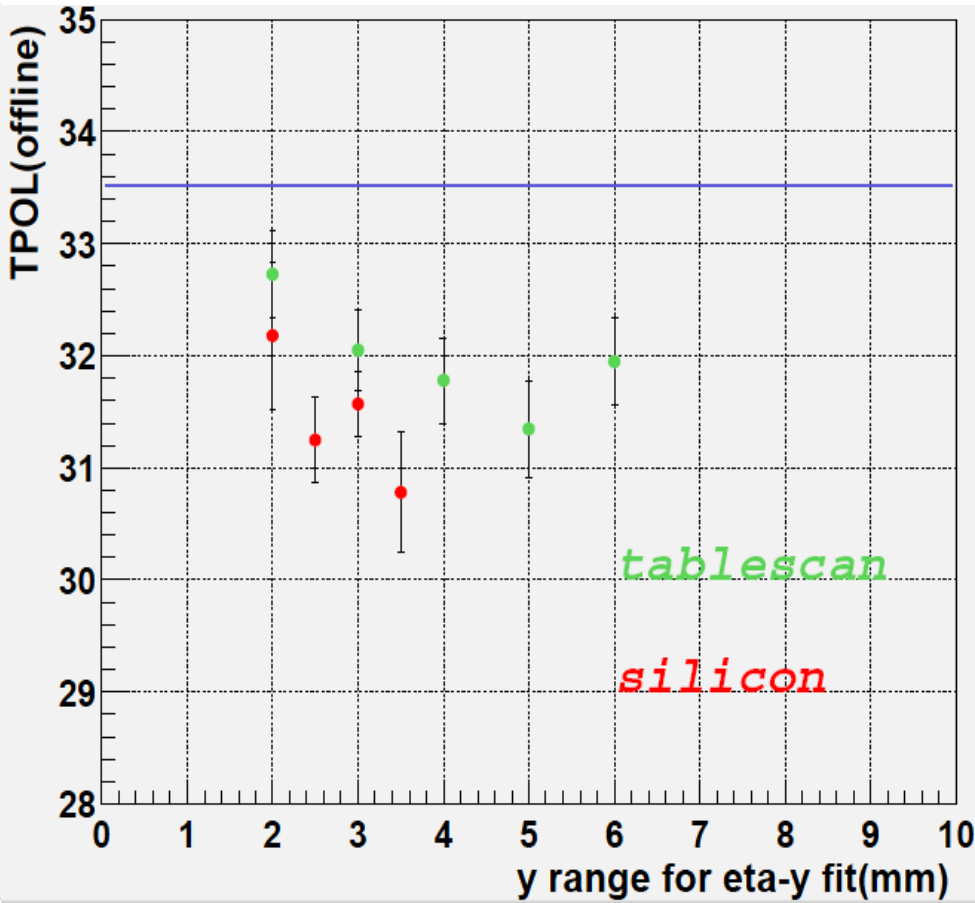


...also,sumS1 fixed

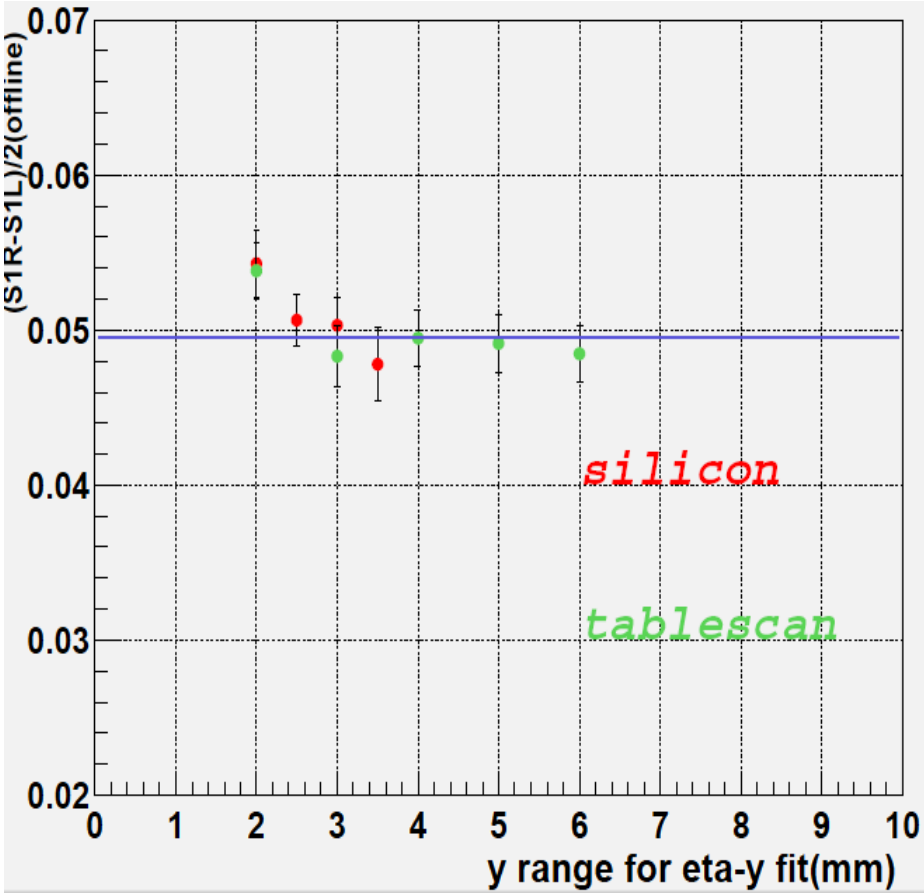
- eta-y parameters
  - from Silicon,table scan.
- beamsize
  - from online analysis.
- sumS1((S1R+S1L)/2)
  - extract from first minute data.
    - fixed to the rest of data with the value.
- Check with some CAL data.
  - 7th.Mar.2004.
  - 31st.Jan.2004.
  - 20th.Jan.2004.

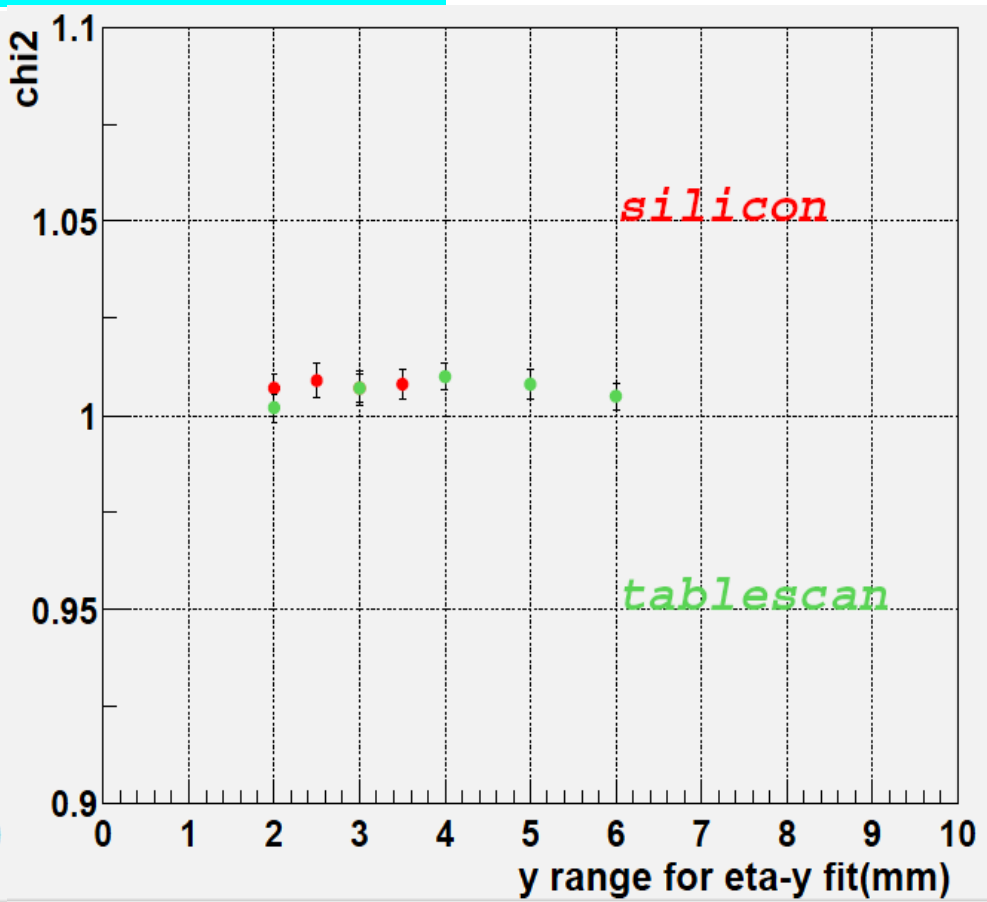
7th.Mar.2004


Lpol/Tpol
1.1
1.05
1
0.95
0.9
0.85
0.8
silicon
tablescan
0 1 2 3 4 5 6 7 8 9 10
y range for eta-y fit(mm)

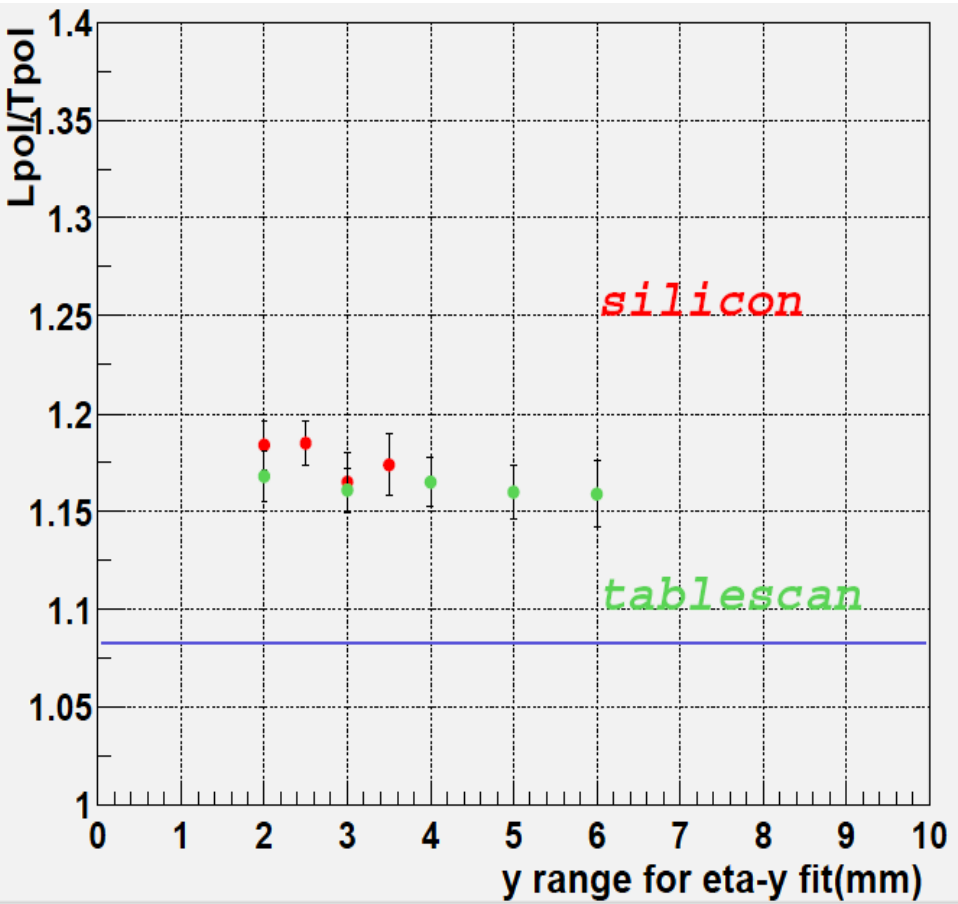

TPOL(offline)
35
34
33
32
31
30
29
28
tablescan
silicon
0 1 2 3 4 5 6 7 8 9 10
y range for eta-y fit(mm)

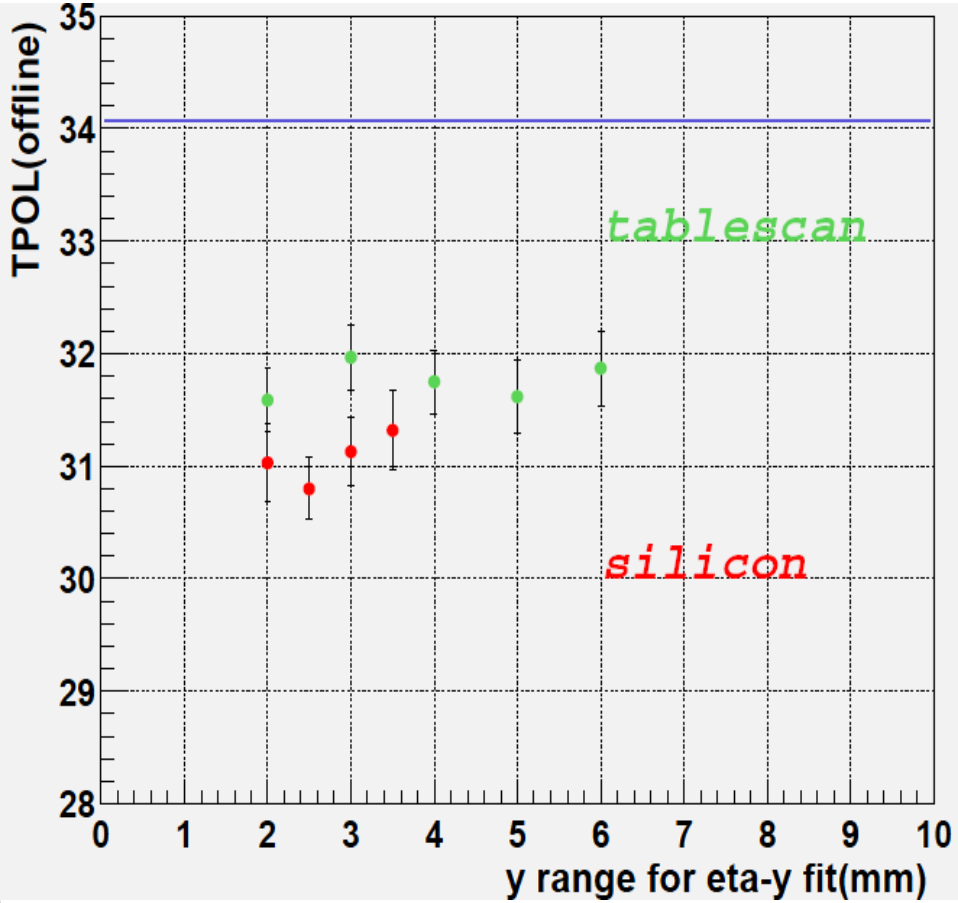
7th.Mar.2004


(S1R-S1L)/2(offline)
0.07
0.06
0.05
0.04
0.03
0.02
0 1 2 3 4 5 6 7 8 9 10
y range for eta-y fit(mm)
silicon
tablescan

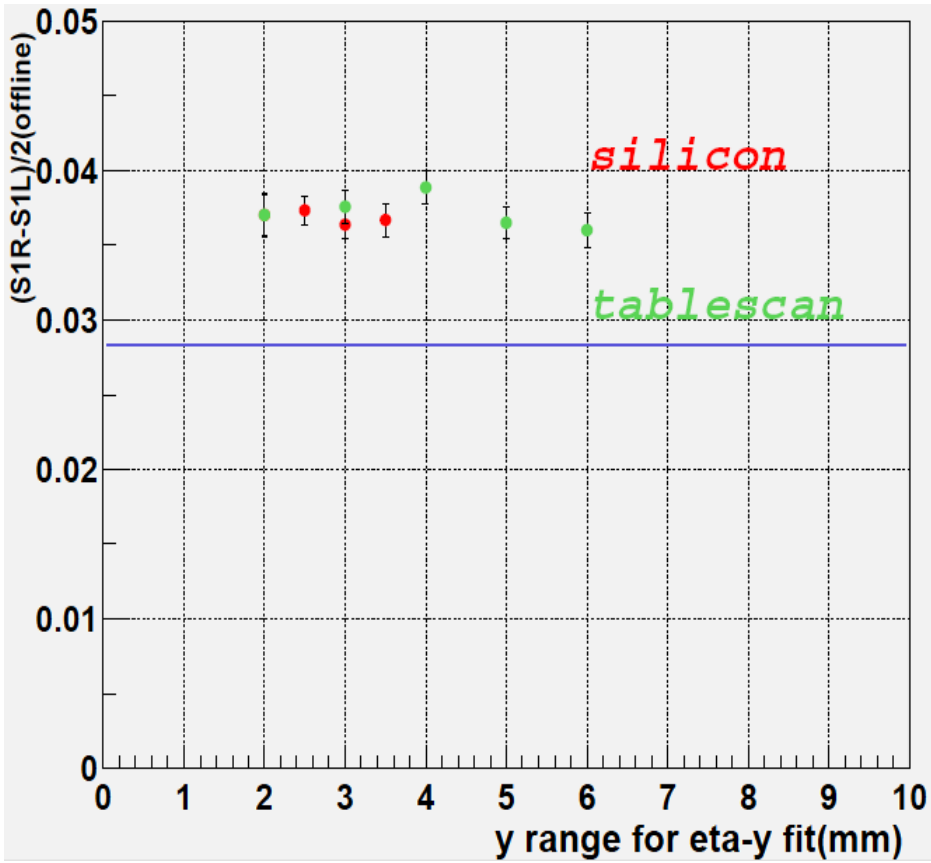

chi2
1.1
1.05
1
0.95
0.9
0 1 2 3 4 5 6 7 8 9 10
y range for eta-y fit(mm)
silicon
tablescan

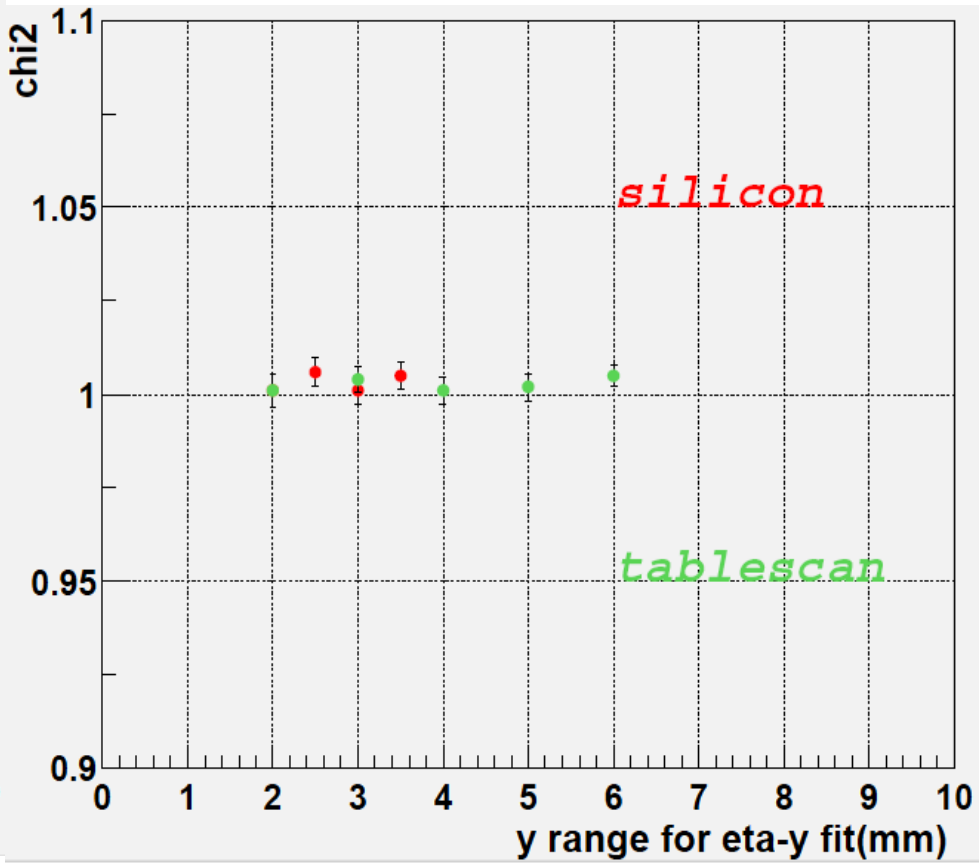
31st.Jan.2004



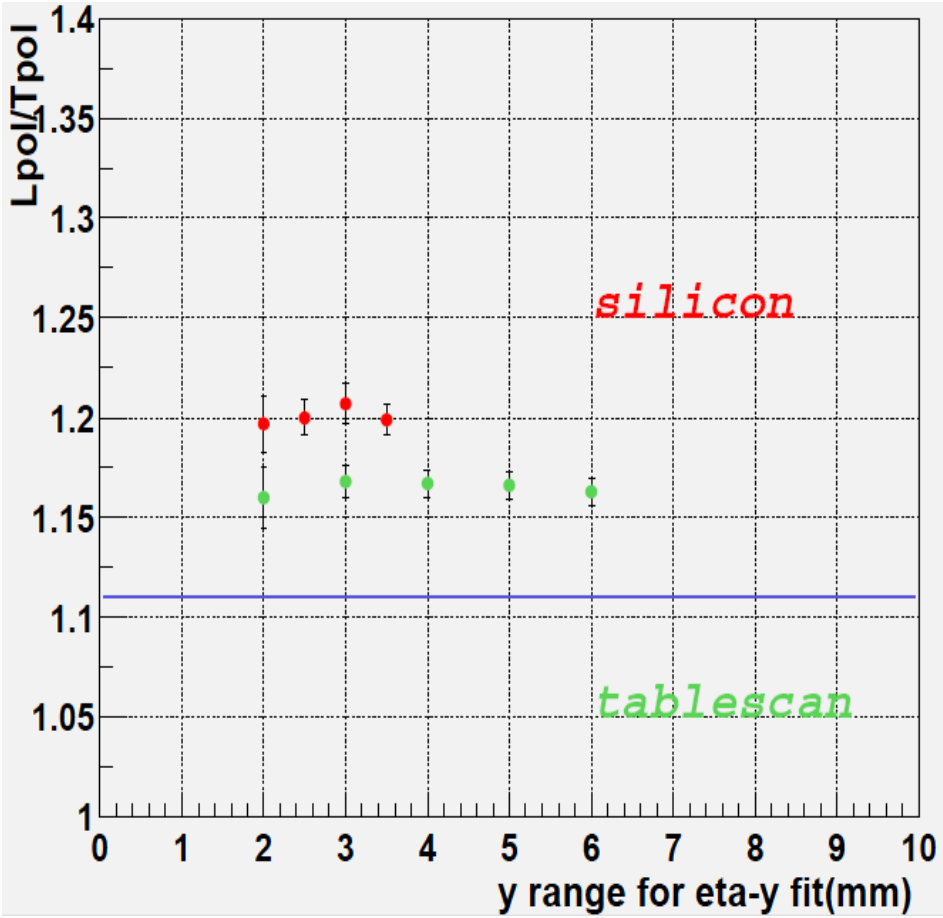


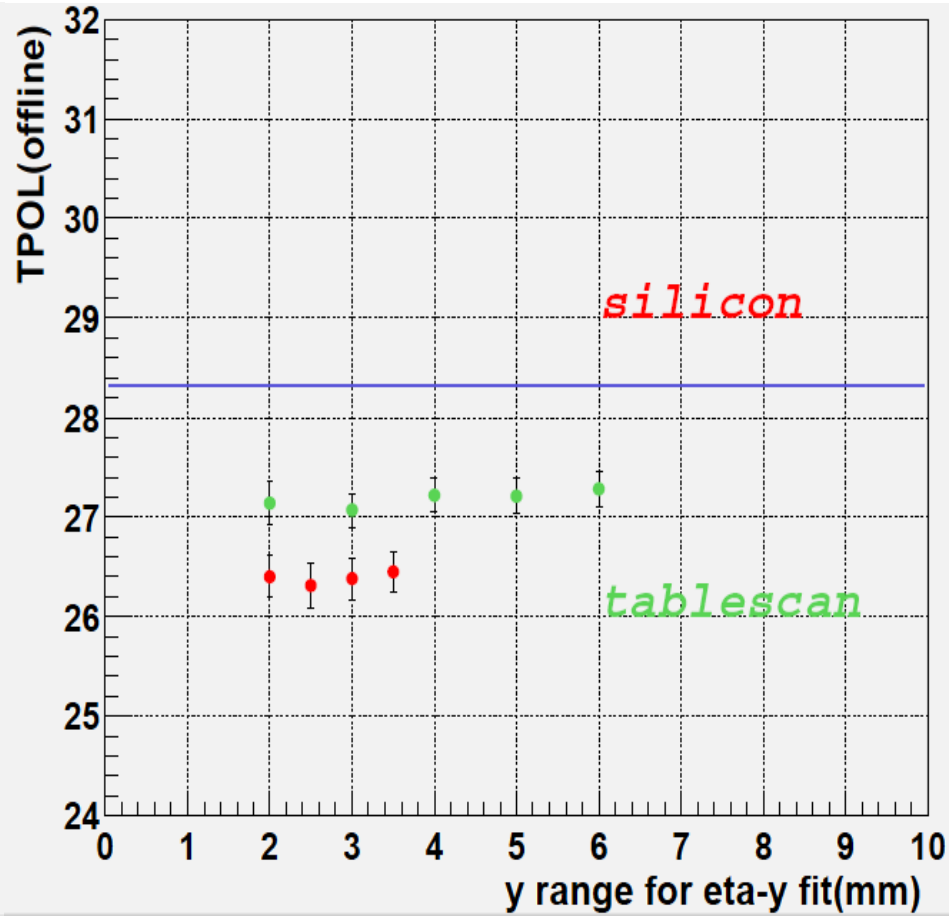
31st.Jan.2004



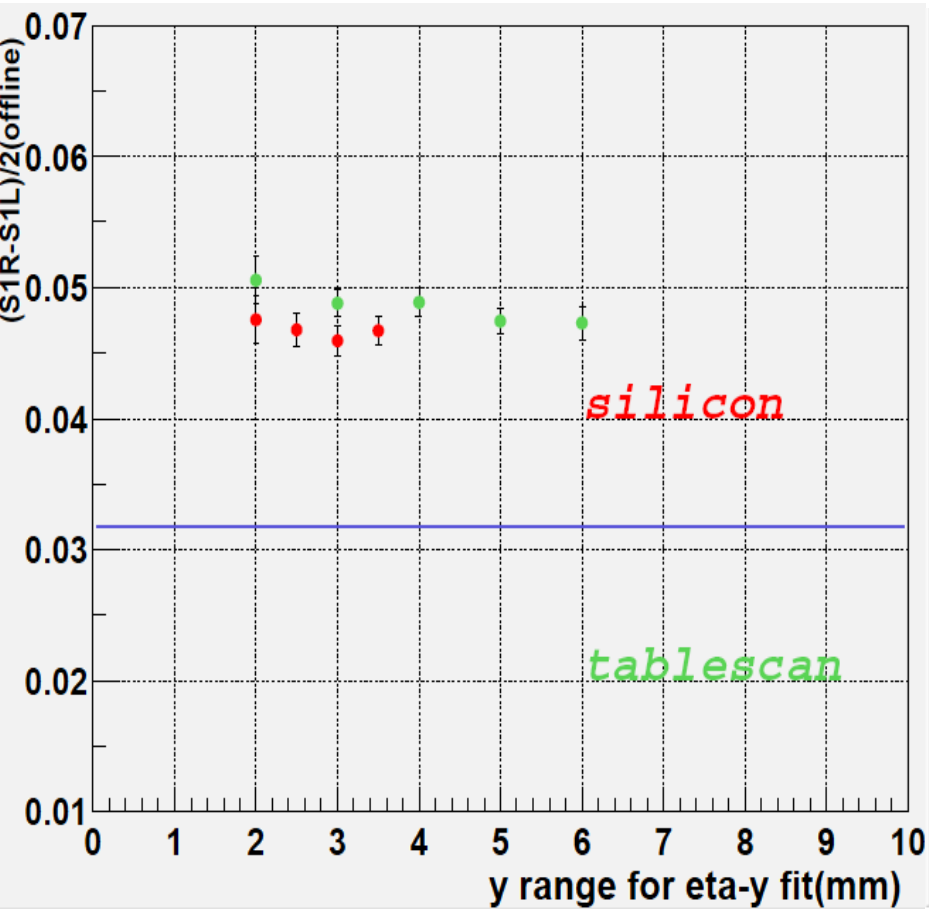


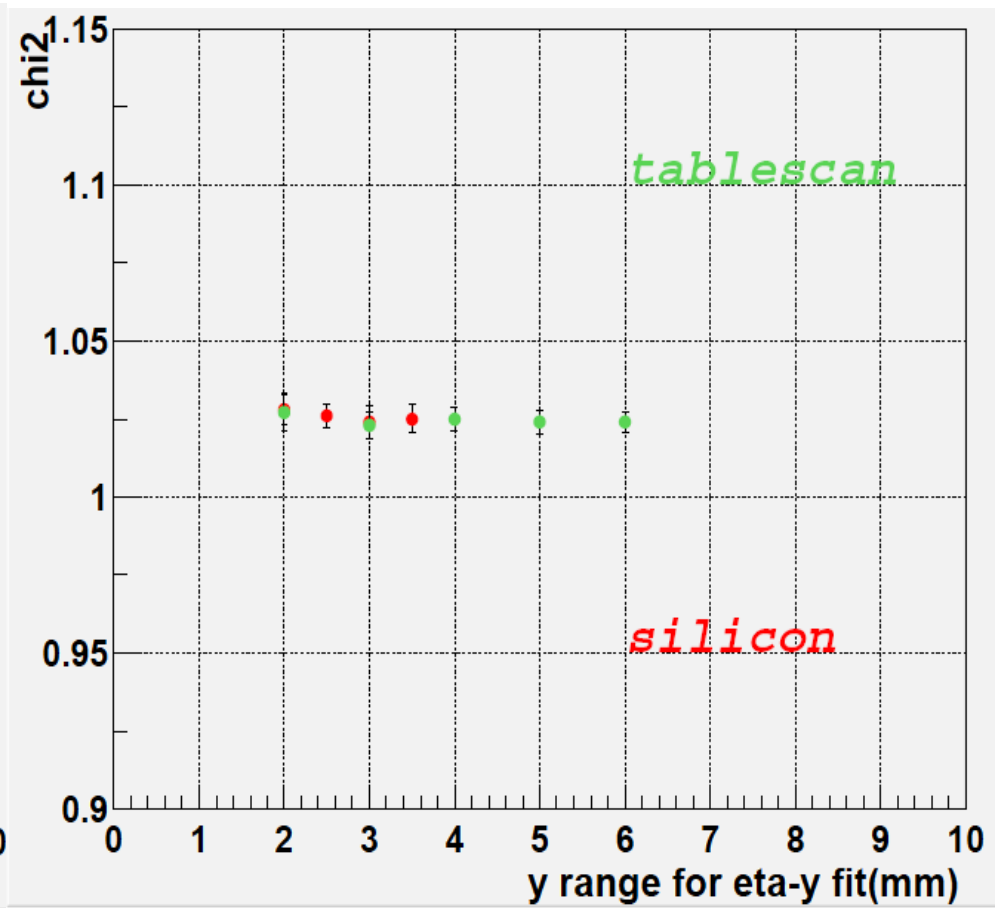
20th.Jan.2004





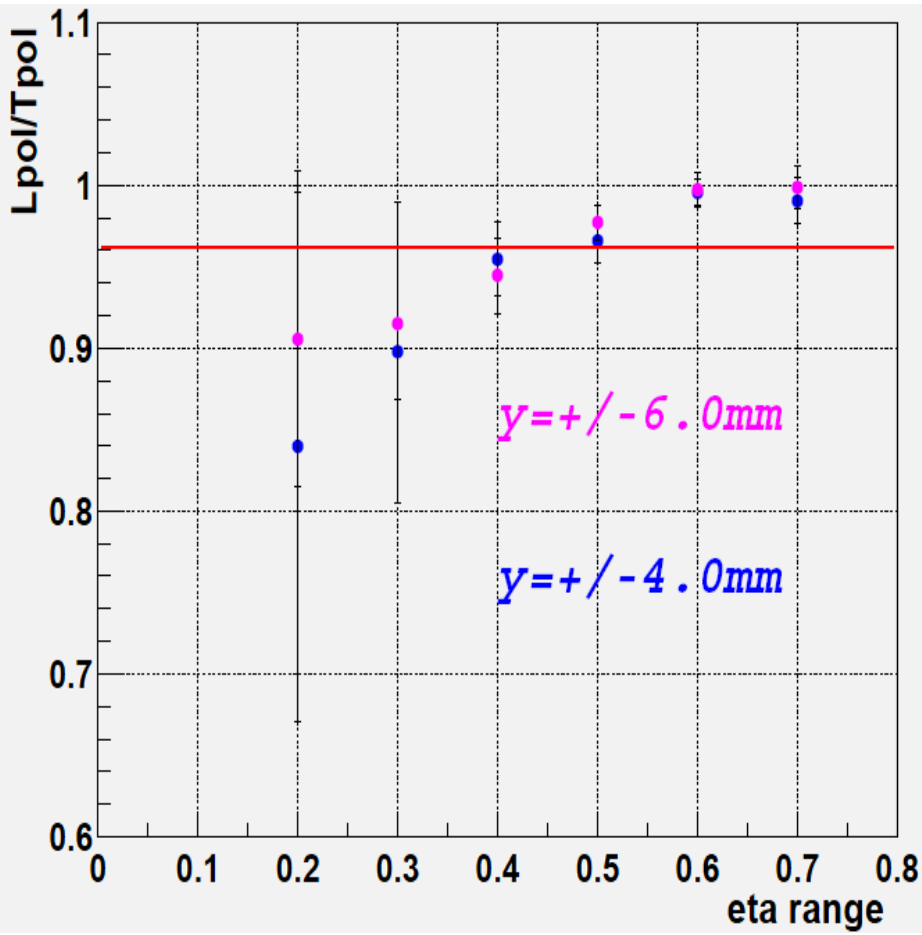
20th.Jan.2004

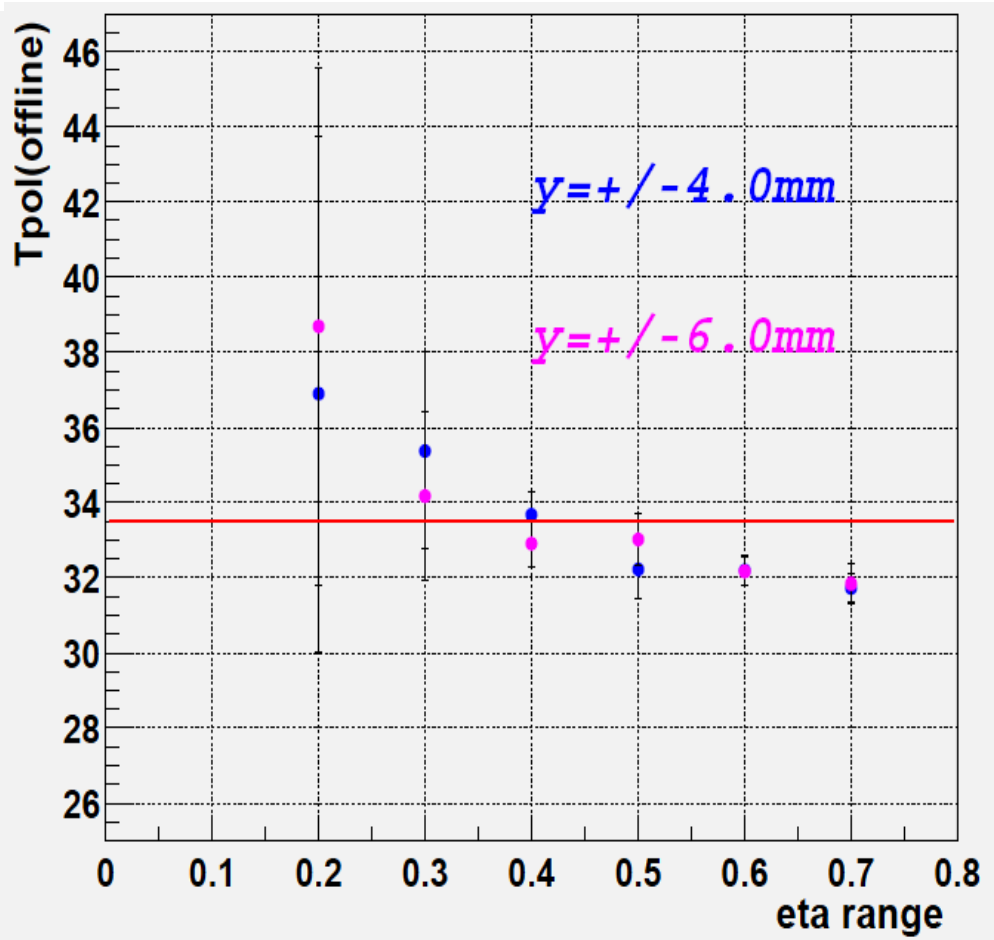


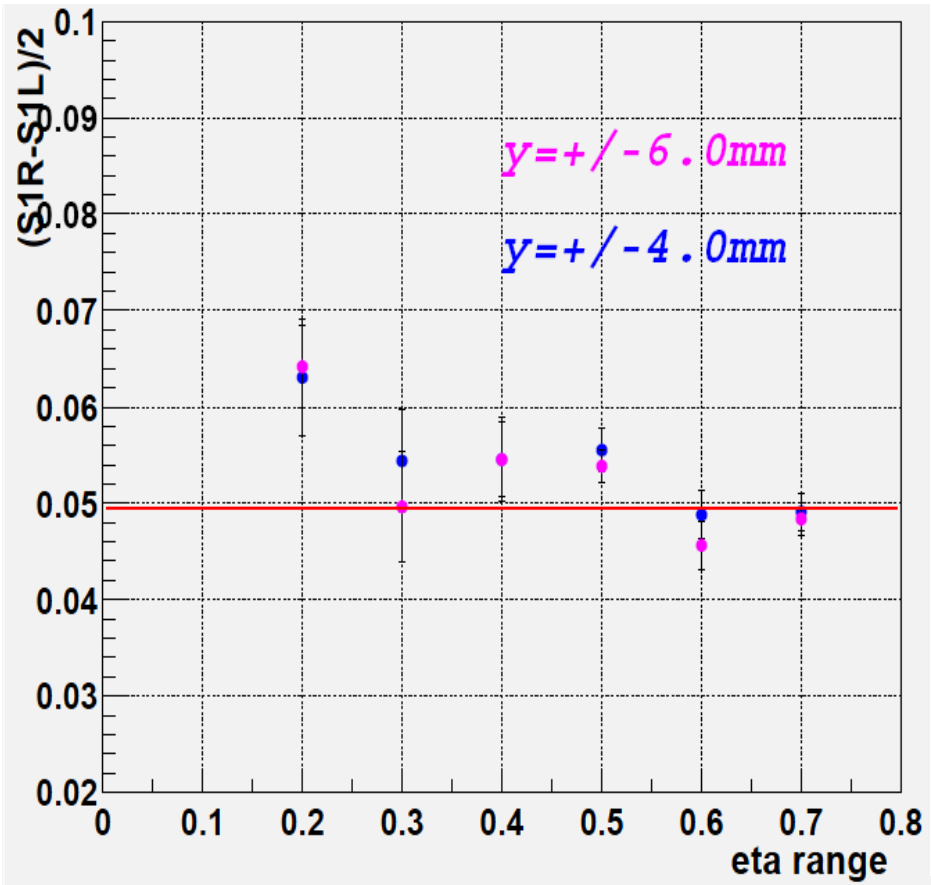


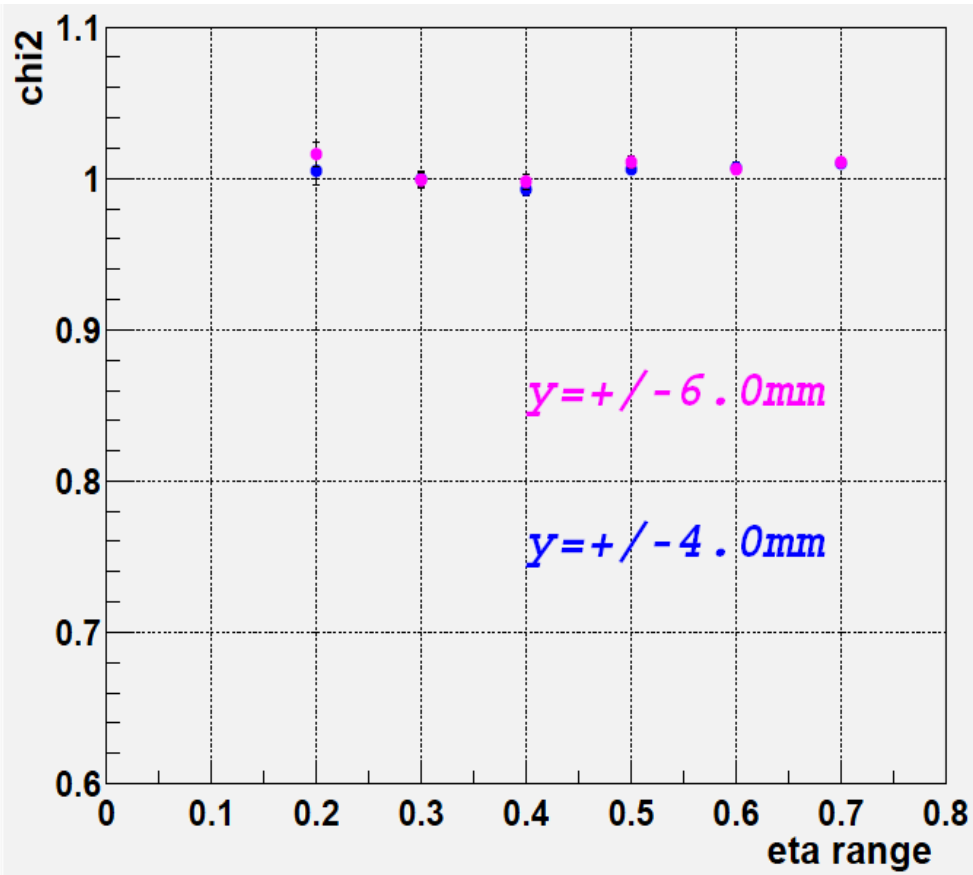
Study on the eta-range dependence

- Check stability of the offline method against eta.
  - y-range are fixed.
    - +/-4.0mm.
    - +/-6.0mm.
- eta-y parameters
  - tablescan.
- eta-y&beamsize&sumS1
  - fixed in offline fitting.
- CAL data sample
  - 7th.Mar.2004


Lpol/Tpol
1.1
1
0.9
0.8
0.7
0.6
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
eta range
y=+/-6.0mm
y=+/-4.0mm


Tpol(offline)
46
44
42
40
38
36
34
32
30
28
26
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
eta range
y=+/-4.0mm
y=+/-6.0mm

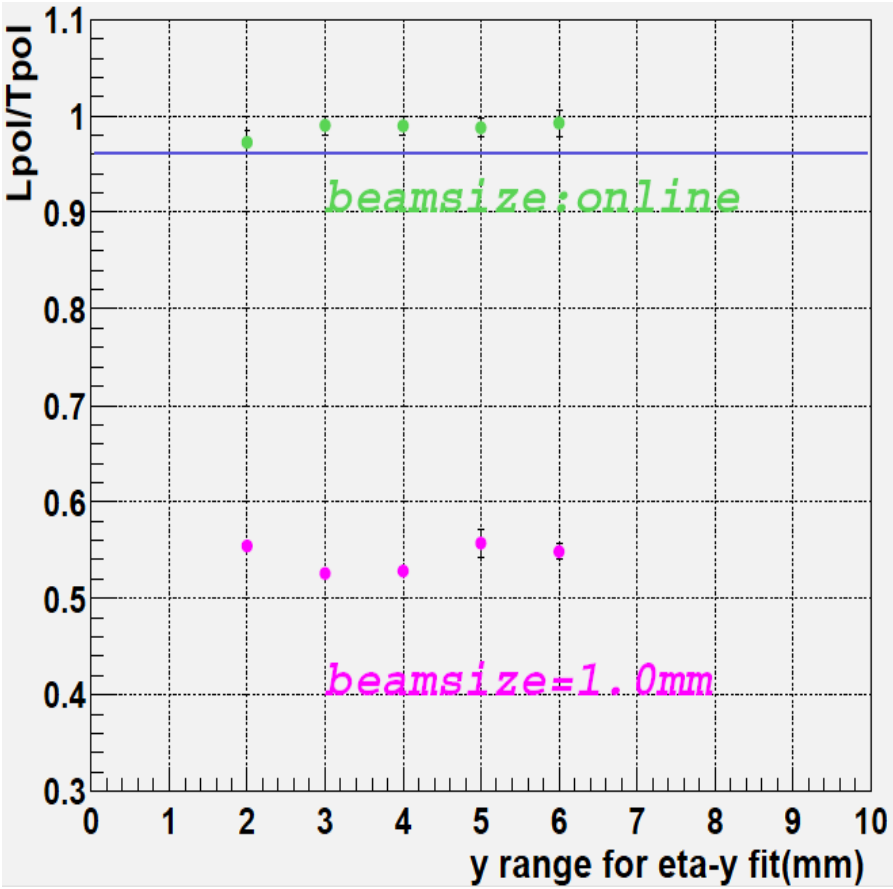

(S1R-S1L)/2
y=+/-6.0mm
y=+/-4.0mm
eta range

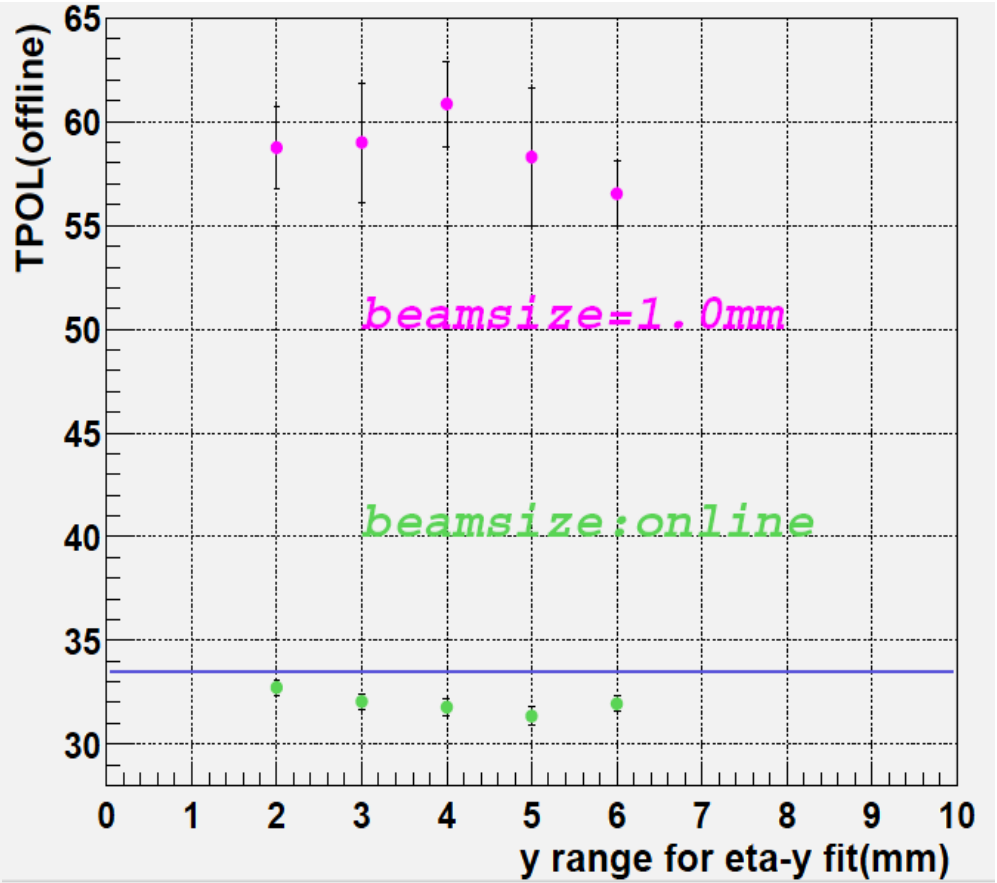

chi2
y=+/-6.0mm
y=+/-4.0mm
eta range

Study on the beamsize dependence

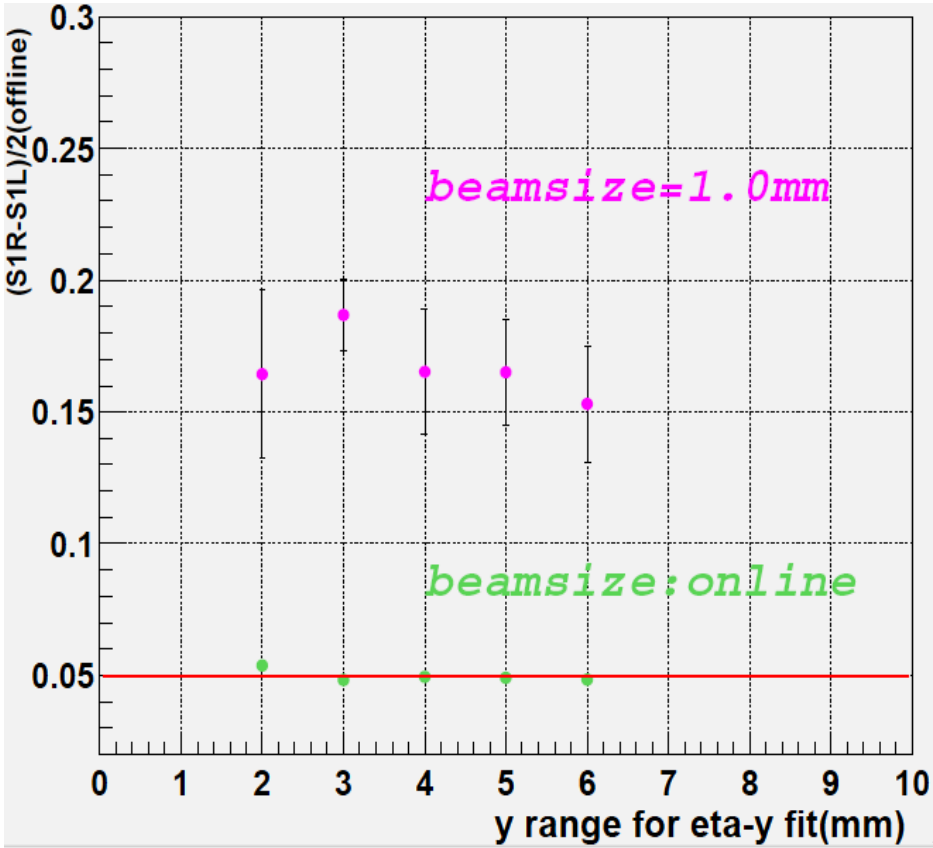
- Check how impact on offline method with different beamsize.
- eta-y parameters
  - Table scan
- CAL data sample.
  - 7th.Mar.2004.
  - 31st.Jan.2004.
- Fixed beamsize.
  - online analysis.
  - 1.0mm

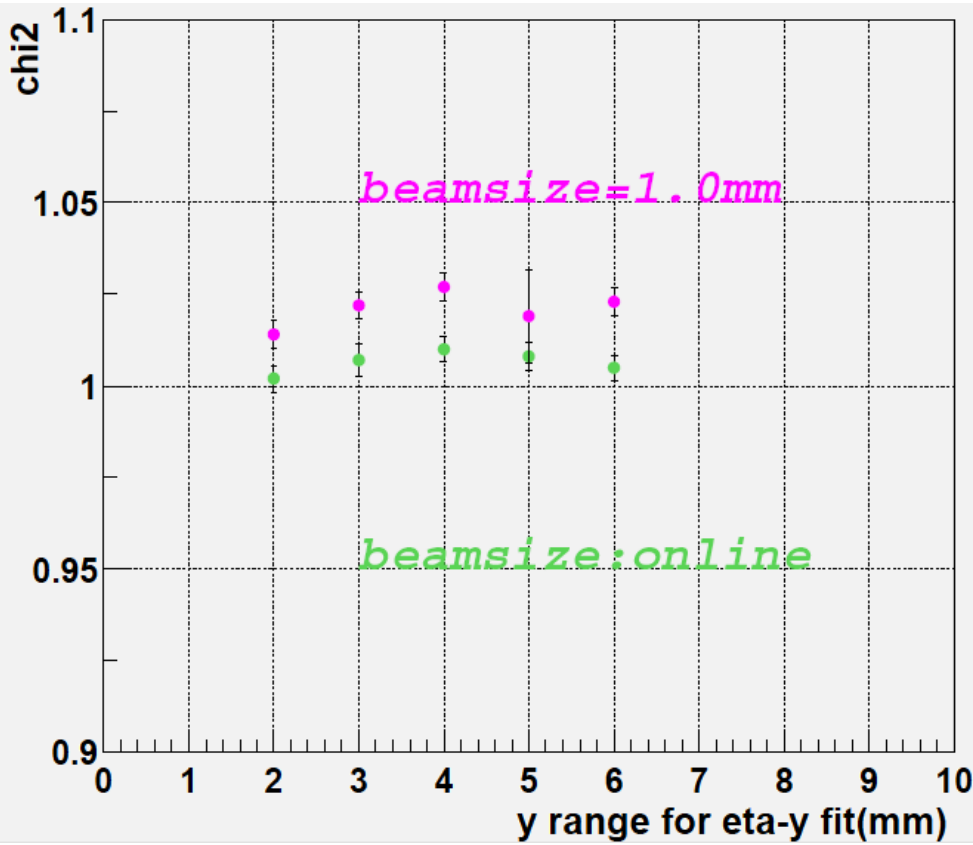
7th.Mar.2004


Lpol/Tpol
beamsize:online
beamsize=1.0mm
y range for eta-y fit(mm)

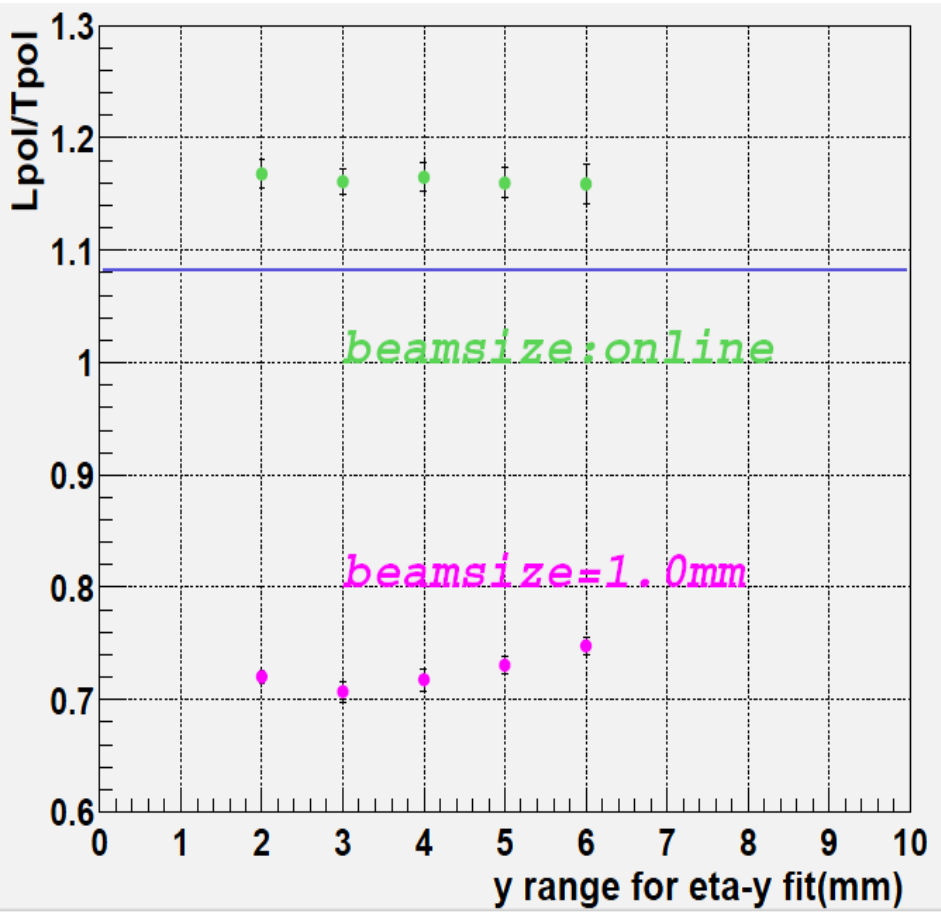

TPOL(offline)
beamsize=1.0mm
beamsize:online
y range for eta-y fit(mm)

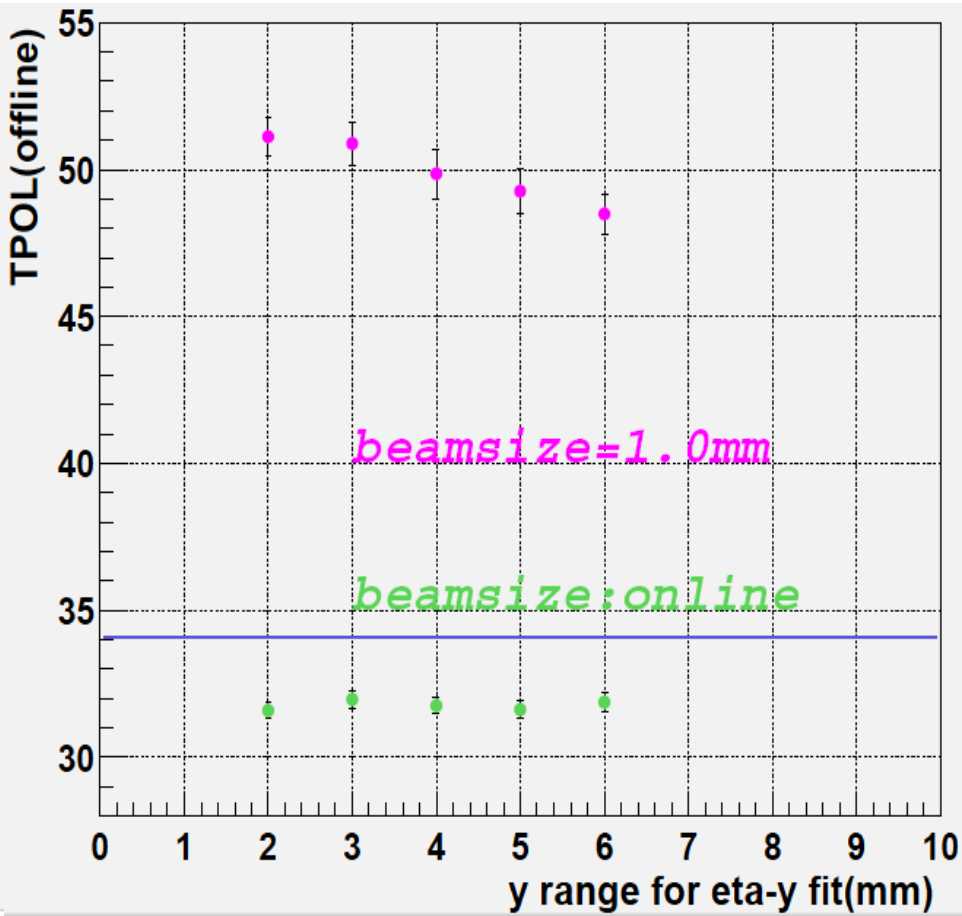
7th.Mar.2004


(S1R-S1L)/2(offline)
0.3
0.25
0.2
0.15
0.1
0.05
beamsize=1.0mm
beamsize:online
0
1
2
3
4
5
6
7
8
9
10
y range for eta-y fit(mm)

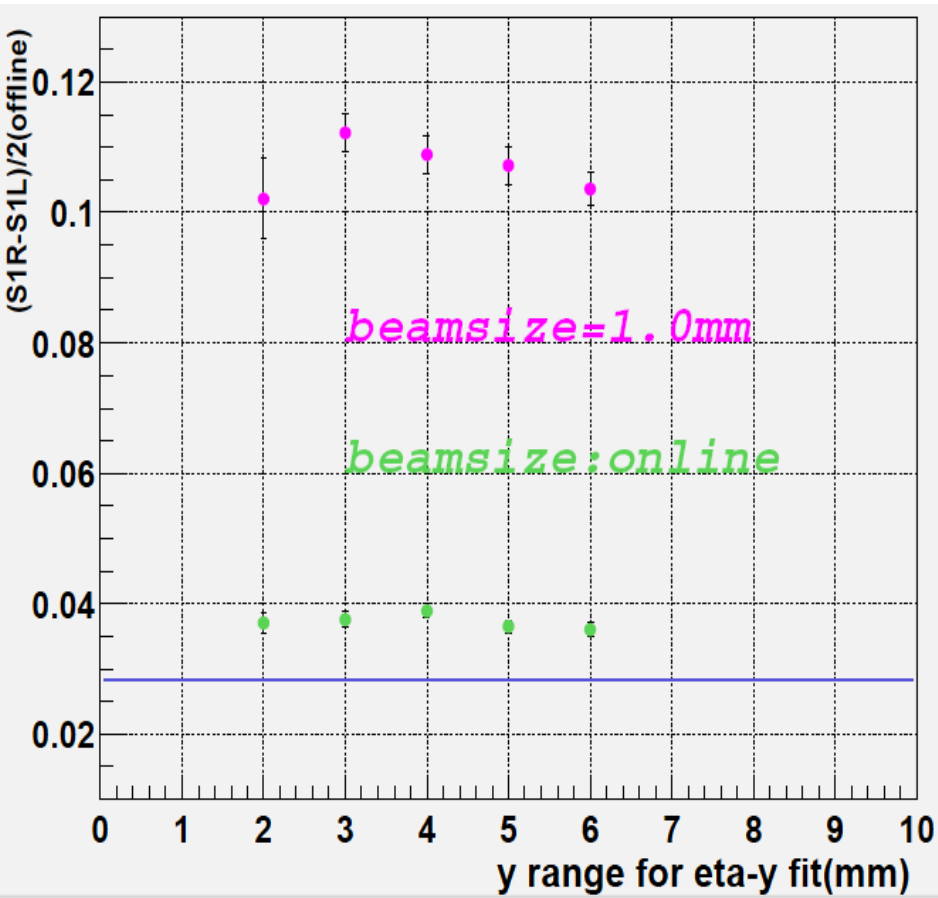

chi2
1.1
1.05
1
0.95
0.9
beamsize=1.0mm
beamsize:online
0
1
2
3
4
5
6
7
8
9
10
y range for eta-y fit(mm)

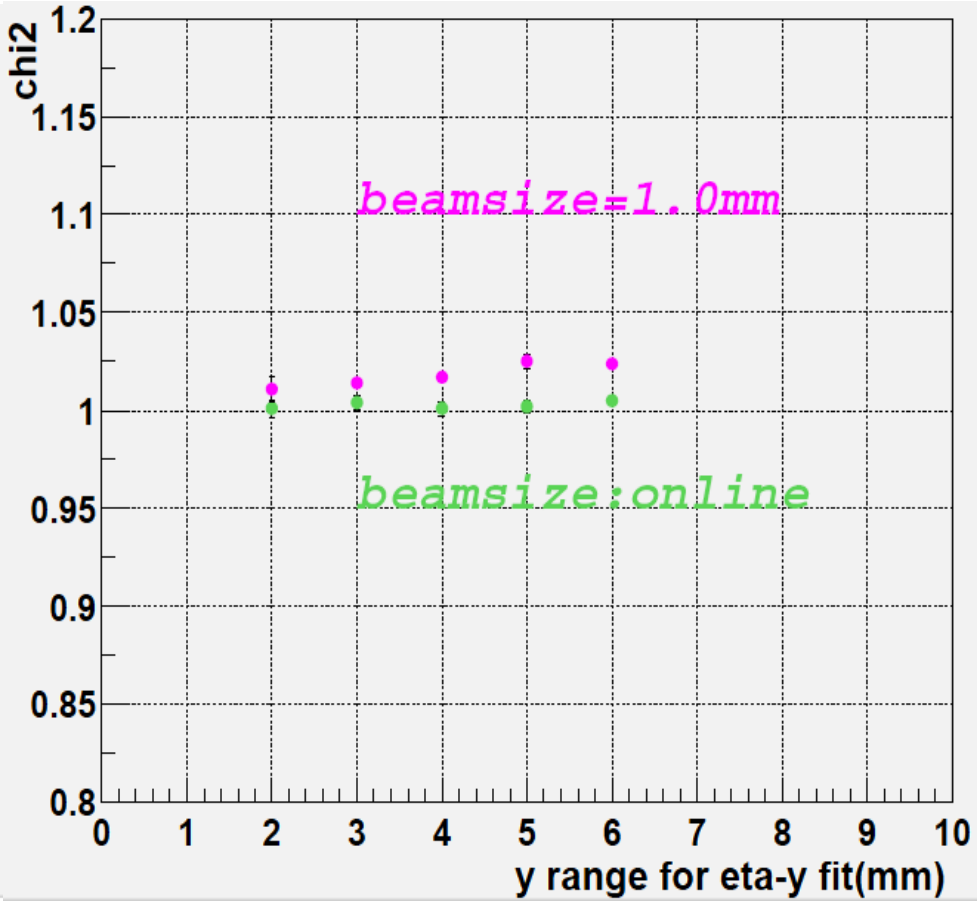
31st.Jan.2004





31st.Jan.2004





Summary & future

- Offline method is unstable, unless beamsize and sumS1 are fixed.
- With these parameters are fixed, no y-range and no eta-range dependence.
- Offline method depends on beamsize strongly .
- Need to estimate the value beamsize and sumS1.