

Status on SDT simulation

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try to update to include 2 TPCs

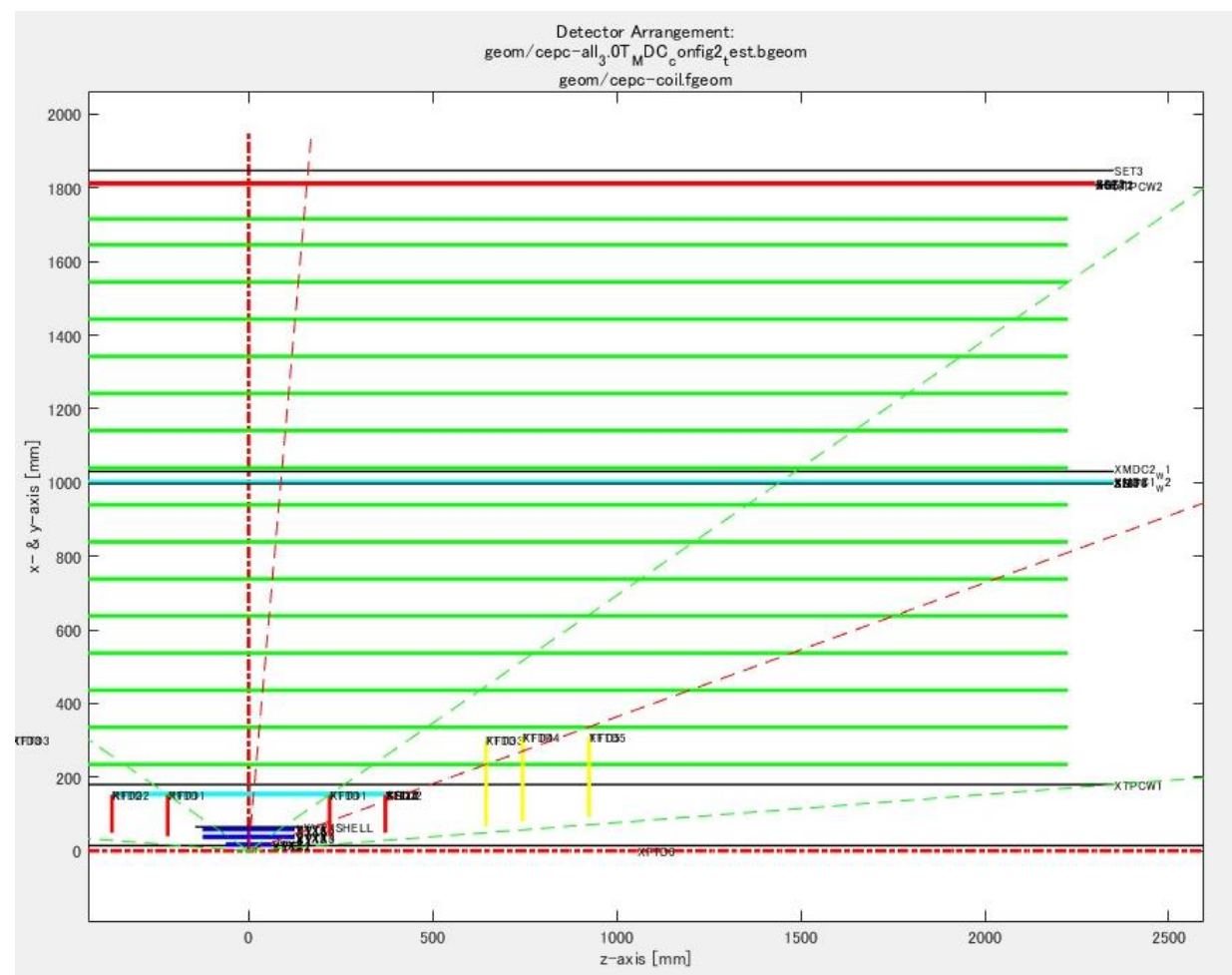
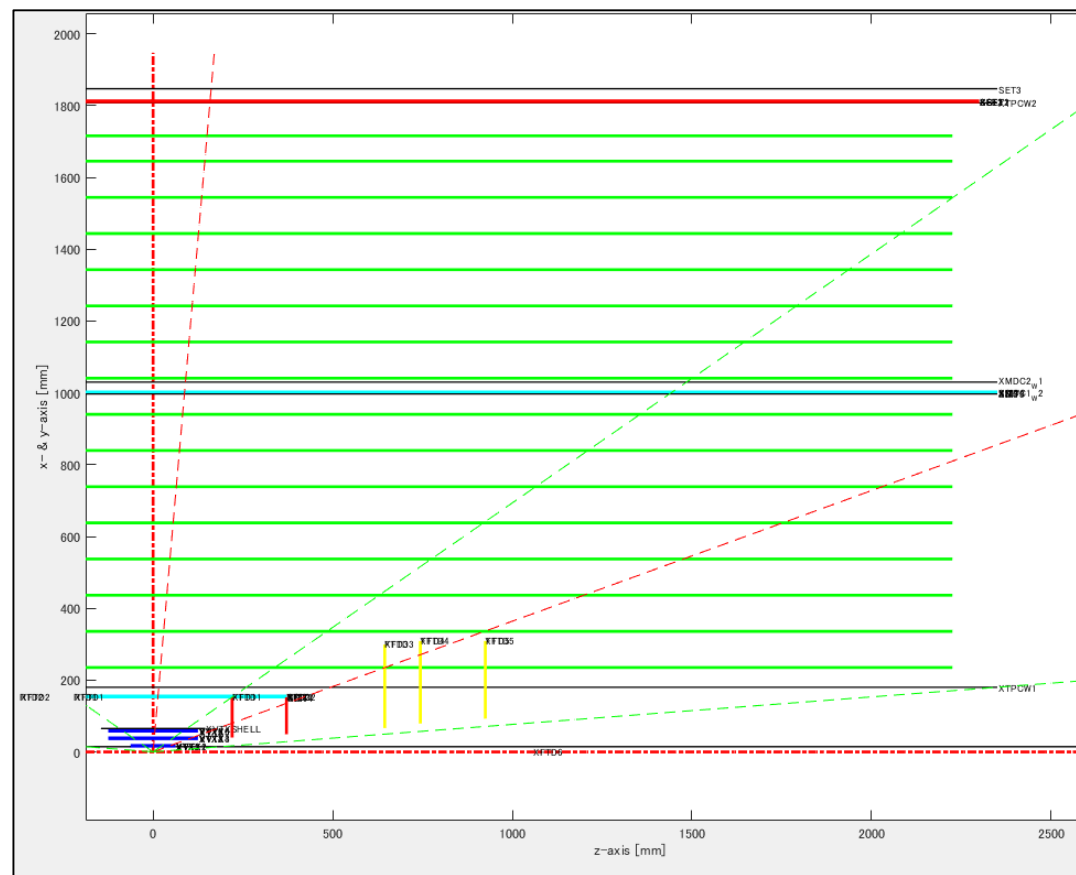
“geomconversion.m”

```
676 - end
677 -
678 - for d=1:TPC.Number
679 -     name=['TPC-',num2str(d)];
680 -     TPC.Name{d}=name;
681 - end
682 -
683 - k=k+1;
684 - % Radius
685 - TPC.Radius=str2num(Valuesb{k})/unit;
686 - switch length(TPC.Radius)
687 -     case TPC.Number
688 -         % do nothing
689 -     case 2
690 -         TPC.Radius=linspace(TPC.Radius(1),TPC.Radius(2),TPC.Number);
691 -         % The interval between the lower and the upper input argument
692 -         % is divided evenly among the desired number of layers
693 -     case 4 % Newly Added (2020--6-22)
694 -         tpc_radius1=linspace(TPC.Radius(1),TPC.Radius(2),tmp_TPC.Number(1));
695 -         tpc_radius2=linspace(TPC.Radius(3),TPC.Radius(4),tmp_TPC.Number(2));
696 -         TPC.Radius=[tpc_radius1,tpc_radius2];
697 -     otherwise
698 -         error(['TPC Radius (Line ',num2str(k),') : number of input arguments has to be 2 or number of TPCs is 4'])
699 - end
700 - k=k+1;
701 -
702 - % Upper z limit
703 - TPC.Length1=str2num(Valuesb{k})/unit;
704 - switch length(TPC.Length1)
705 -     case TPC.Number
706 -         % do nothing
```

config file

```
32 32 Stereo angle alpha [Rad] : 7*(pi/180), 7*(pi/180), 7*(pi/180), 7*(pi/180)
33 33 Thickness [rad. lengths] : 0.00213, 0.00468, 0.00468, 0.00213
34 34 error distribution : 0
35 35 0 normal-sigma(RPhi) [1e-6m] : 7
36 36 sigma(z) [1e-6m] : 7
37 37 1 uniform-d(RPhi) [1e-6m] :
38 38 d(z) [1e-6m] :
39 39
40 40 Time Projection Chamber (TPC)
41 41 sigma^2=sigma0^2+sigma1^2*sin(beta)^2+Cdiff^2*6mm/h*sin(theta)*Ldrift[m]
42 42 Number of layers : 77,71
43 43 Radii [mm] : 235,1000,1010,1716
44 44 Upper limit in z [mm] : 2225
45 45 Lower limit in z [mm] : -2225
46 46 Efficiency RPhi : 1
47 47 Efficiency z : 1
48 48 Thickness [rad. lengths] : 0.00005194
49 49 sigma0(RPhi) [1e-6m] : 50
50 50 sigma1(RPhi) [1e-6m] : 900
51 51 Cdiff(RPhi) [1e-6m/sqrt(m)] : 25
52 52 sigma0(z) [1e-6m] : 400
53 53 sigma1(z) [1e-6m] : 0
54 54 Cdiff(z) [1e-6m/sqrt(m)] : 80
55 55
56 56 Silicon External Tracker (SET)
```

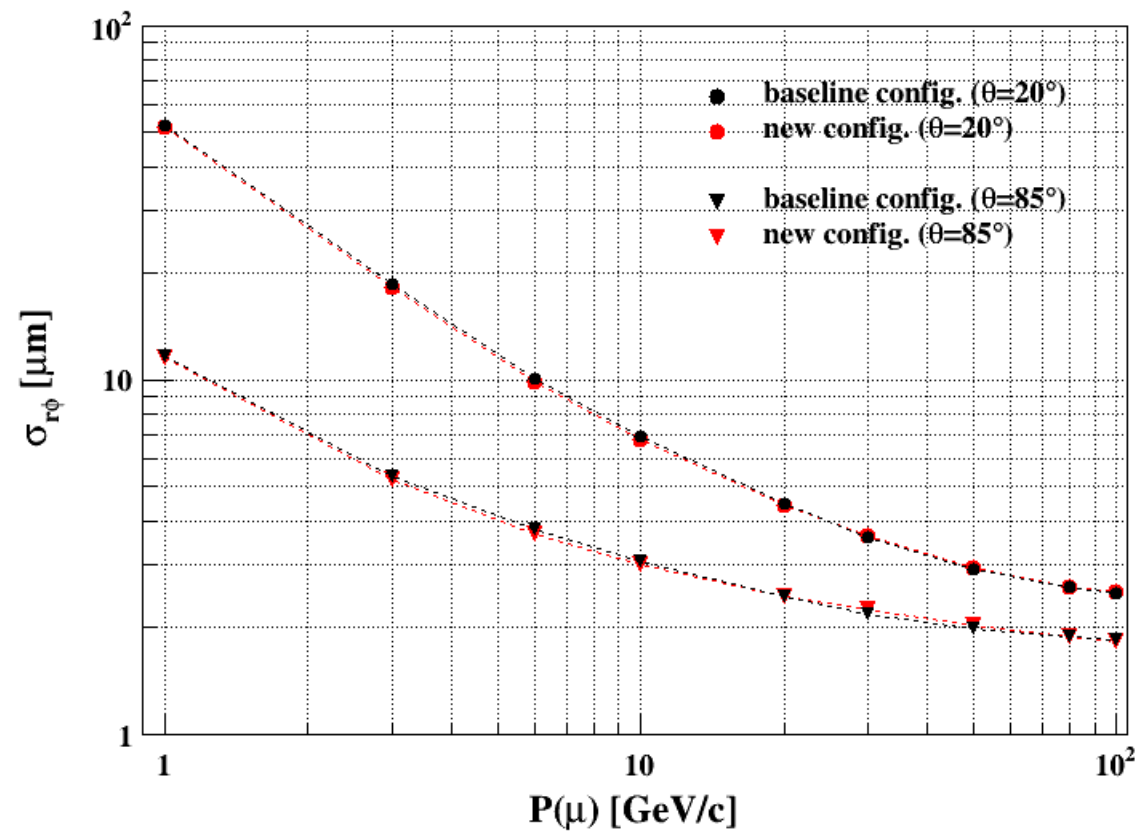
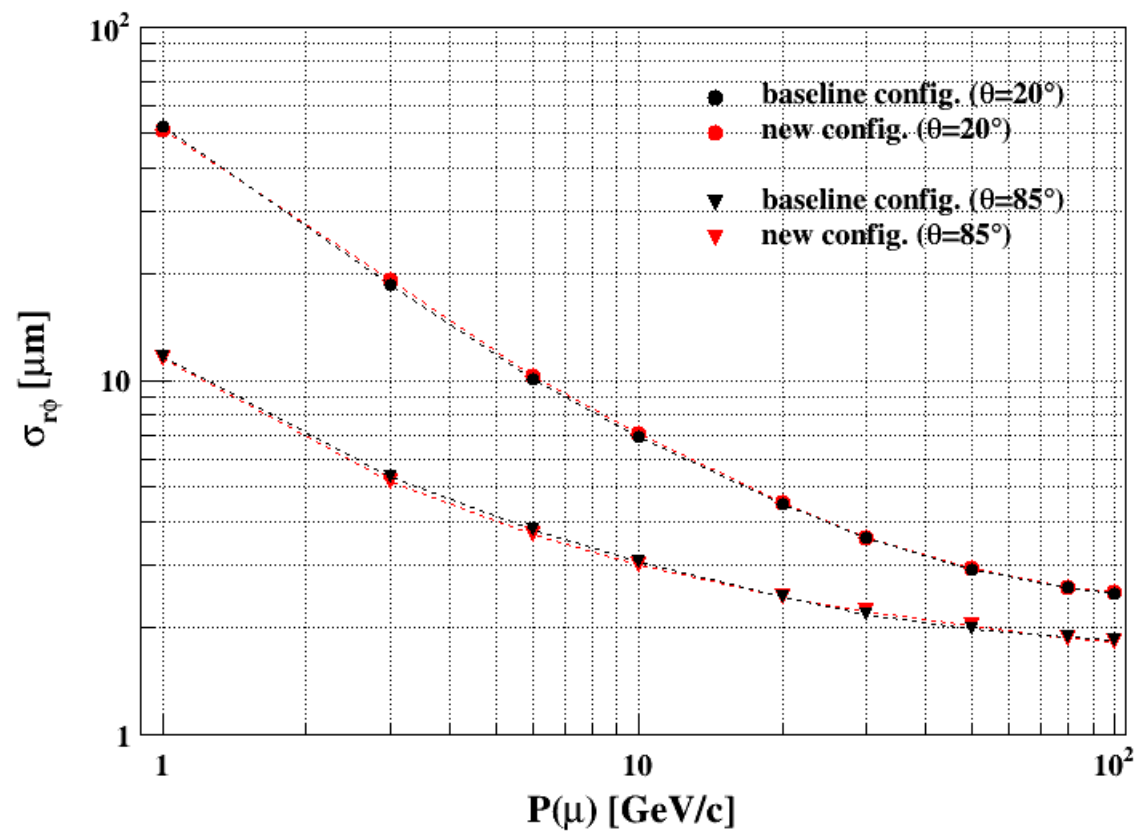
2 TPC setting
only for radius
in this update:
the other
parameters
are the same



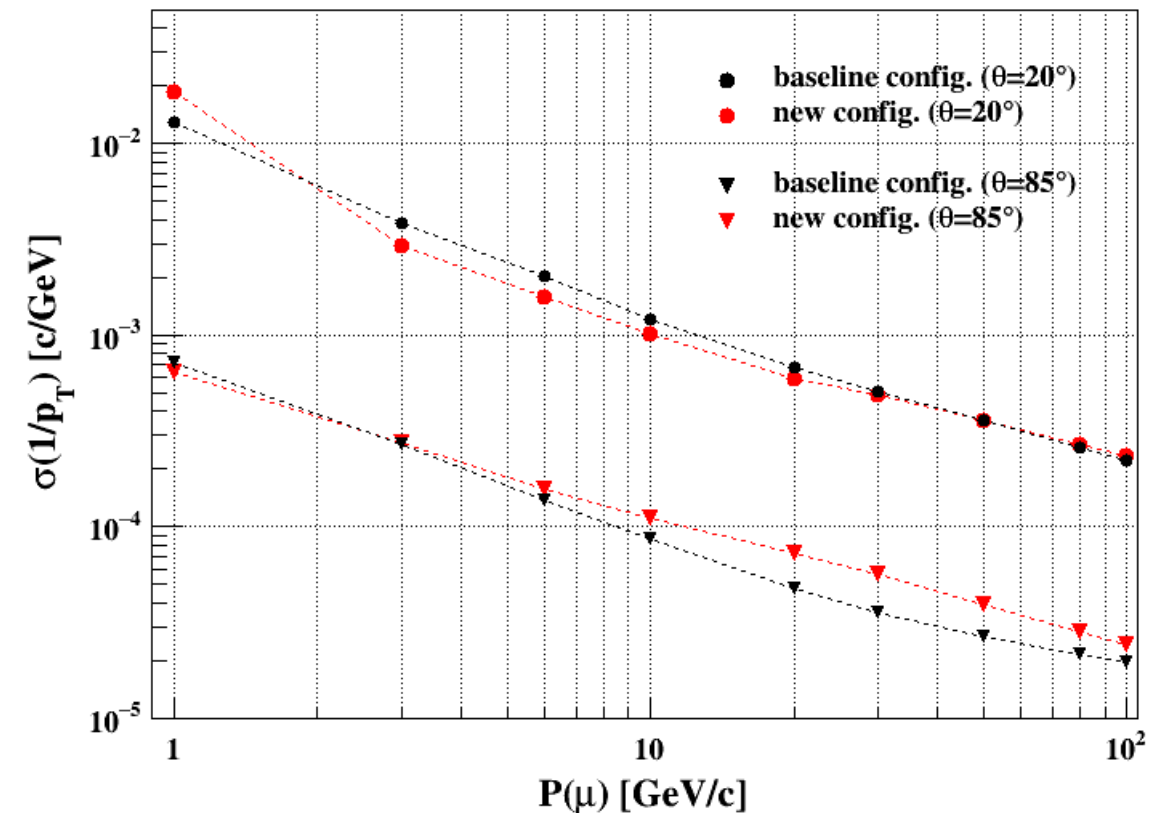
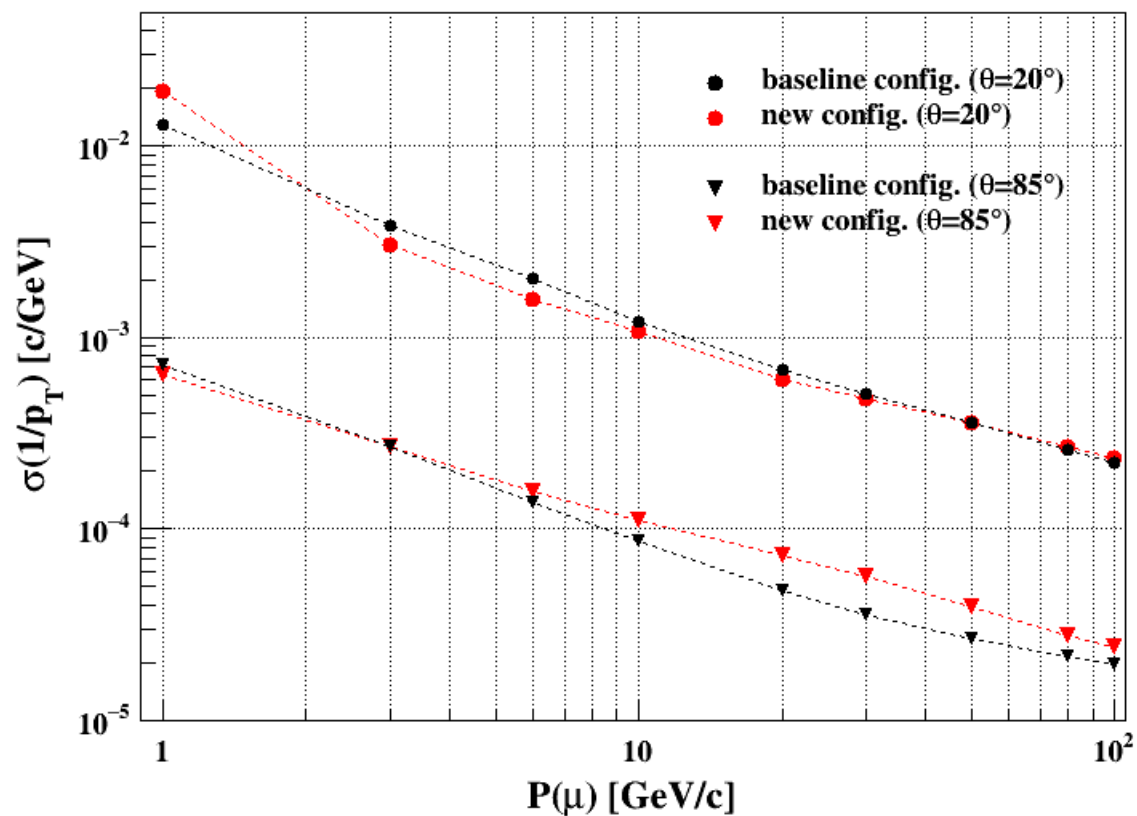
Those order are the same

[illegible]

Comparison of resolutions I.



Comparison of resolutions II.



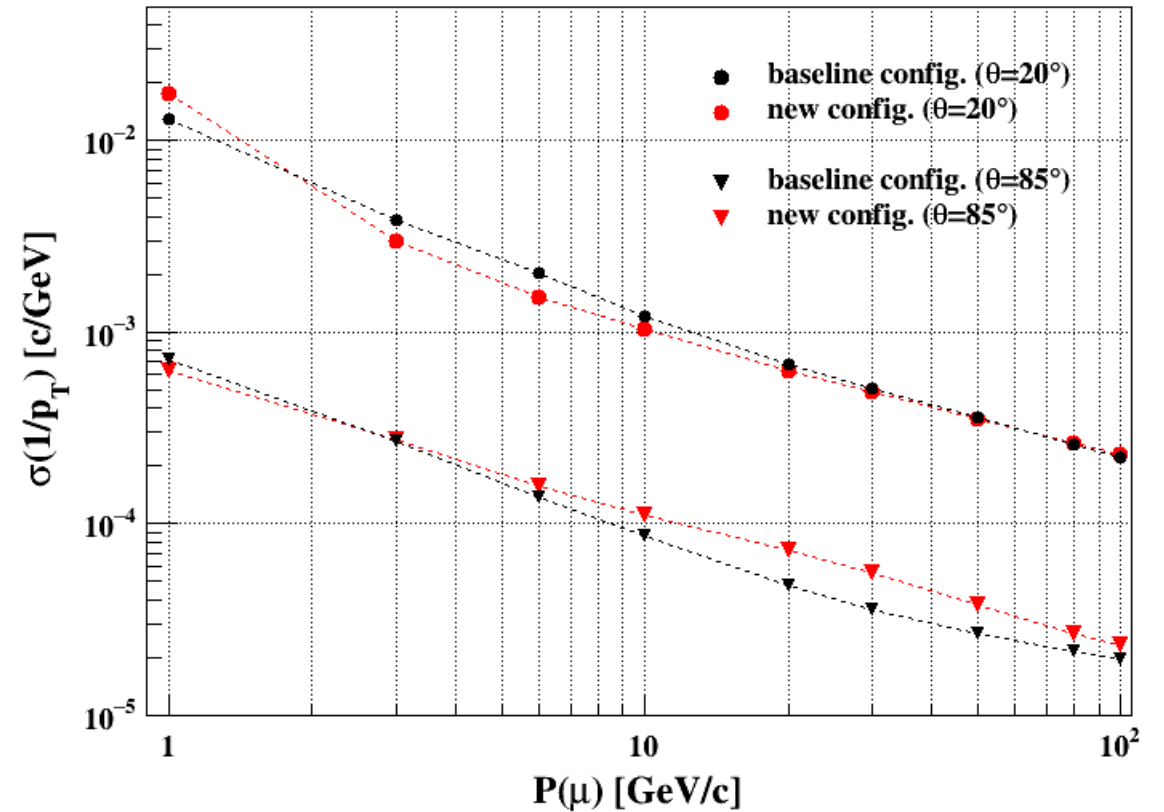
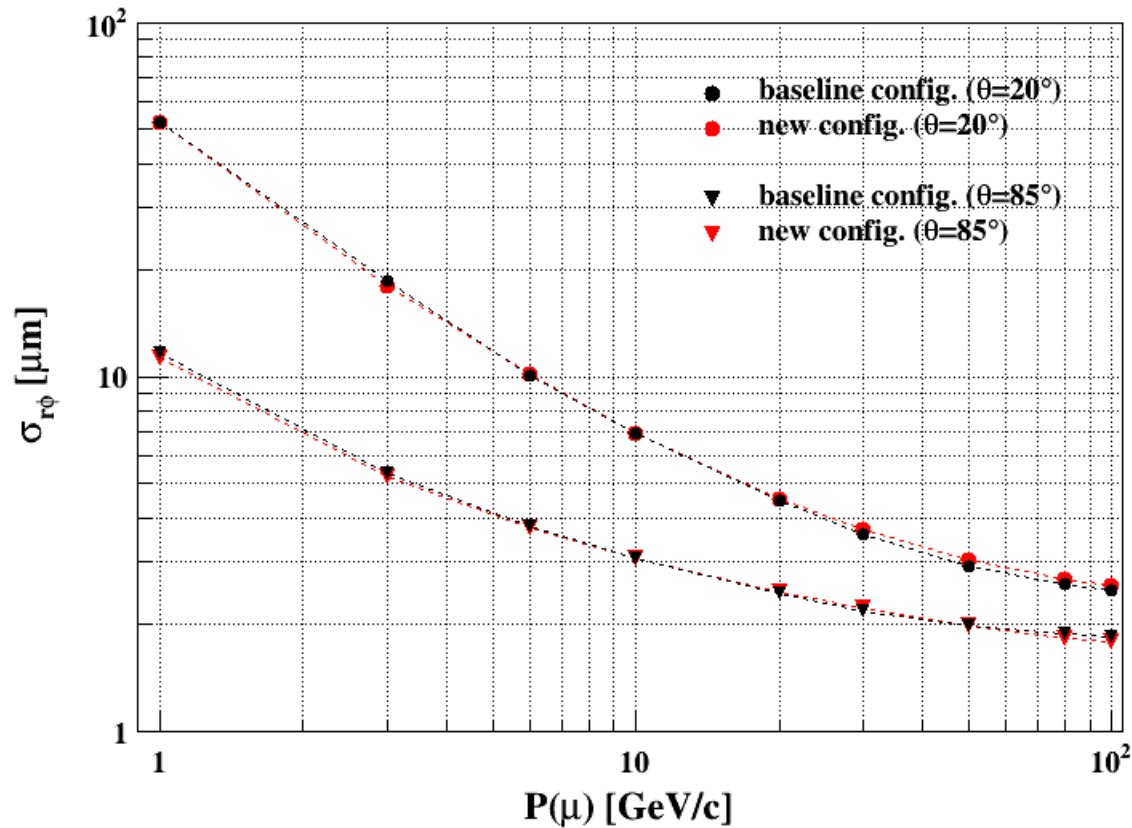

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22 22 Silicon Inner Tracker (SIT)
23 23
24 24 Number of layers      : 11
25 25 Description (optional) : |-----Inner tracker-----|TPC inner wall|
26 26 Names of the layers (opt.) : SIT1,      XSIT1,      XSIT2,      SIT2,      SIT3,      XSIT3,      XSIT4,      SIT4,      XTPCW1,      XMDC1_W2,      XMDC2_W1
27 27 Radii [mm]             : 152.9,      153.1,      154.4,      155.4,      999.9,      1000.1,      1001.4,      1002.4,      180,      997,      1030
28 28 Upper limit in z [mm]   : 371.3,      371.3,      371.3,      371.3,      2350,      2350,      2350,      2350,      2350,      2350,      2350
29 29 Lower limit in z [mm]   : -371.3,     -371.3,     -371.3,     -371.3,     -2350,     -2350,     -2350,     -2350,     -2350,     -2350,     -2350
30 30 Efficiency RPhi         : 0.99,      0,          0,          0,          0.99,      0,          0,          0,          0,          0,          0
31 31 Efficiency 2nd coord. (eg. z): 0,          0,          0,          0.99,      0,          0,          0.99,      0,          0,          0,          0
32 32 Stereo angle alpha [Rad] : 7*(pi/180), 7*(pi/180), 7*(pi/180), 7*(pi/180), 7*(pi/180), 7*(pi/180), 7*(pi/180), 7*(pi/180), 7*(pi/180), 7*(pi/180), 7*(pi/180)
33 33 Thickness [rad. lengths] : 0.00213,   0.00468,   0.00468,   0.00213,   0.00213,   0.00468,   0.00468,   0.00213,   0.0009367, 0.009367, 0.0009367
34 34 error distribution      : 0
35 35 0 normal-sigma(RPhi) [1e-6m] : 7
36 36      sigma(z) [1e-6m] : 7
37 37 1 uniform-d(RPhi) [1e-6m] :
38 38      d(z) [1e-6m] :
39 39
40 40 Time Projection Chamber (TPC)
41 41 sigma^2=sigma0^2+sigma1^2*sin(beta)^2+Cdiff^2*6mm/h*sin(theta)*Ldrift[m]
42 42 Number of layers      : 67,63
43 43 Radii [mm]            : 235,905,1085,1716
44 44 Upper limit in z [mm] : 2225
45 45 Lower limit in z [mm] : -2225
46 46 Efficiency RPhi       : 1
47 47 Efficiency z          : 1
48 48 Thickness [rad. lengths] : 0.00005194
49 49 sigma0(RPhi) [1e-6m] : 50
50 50 sigma1(RPhi) [1e-6m] : 900
51 51 Cdiff(RPhi) [1e-6m/sqrt(m)] : 25
52 52 sigma0(z) [1e-6m] : 400
53 53 sigma1(z) [1e-6m] : 0
54 54 Cdiff(z) [1e-6m/sqrt(m)] : 80
55 55
56 56 Silicon External Tracker (SET)
57 57
58 58 Number of layers      : 6
59 59 Description (optional) : |TPC outer wall|-----External Tracker-----|
60 60 Names of the layers (opt.) : XTPCW2,      SET1,      XSET1,      XSET2,      SET2,      SET3
61 61 Radii [mm]             : 1808,      1810.9,      1811.1,      1812.4,      1813.4,      1847.4
62 62 Upper limit in z [mm]   : 2350,      2300,      2300,      2300,      2300,      2350
63 63 Lower limit in z [mm]   : -2350,     -2300,     -2300,     -2300,     -2300,     -2350
64 64 Efficiency RPhi         : 0,          0.99,      0,          0,          0,          0
65 65 Efficiency 2nd coord. (eg. z): 0,          0,          0,          0,          0.99,      0

```

separate 2 MDC(TPC)s

Comparison of resolutions III.



Just a trial to update the code. The detail comparison, such as changing the position of the 2nd SIT, is not done yet.