RPC Trigger Acceptance

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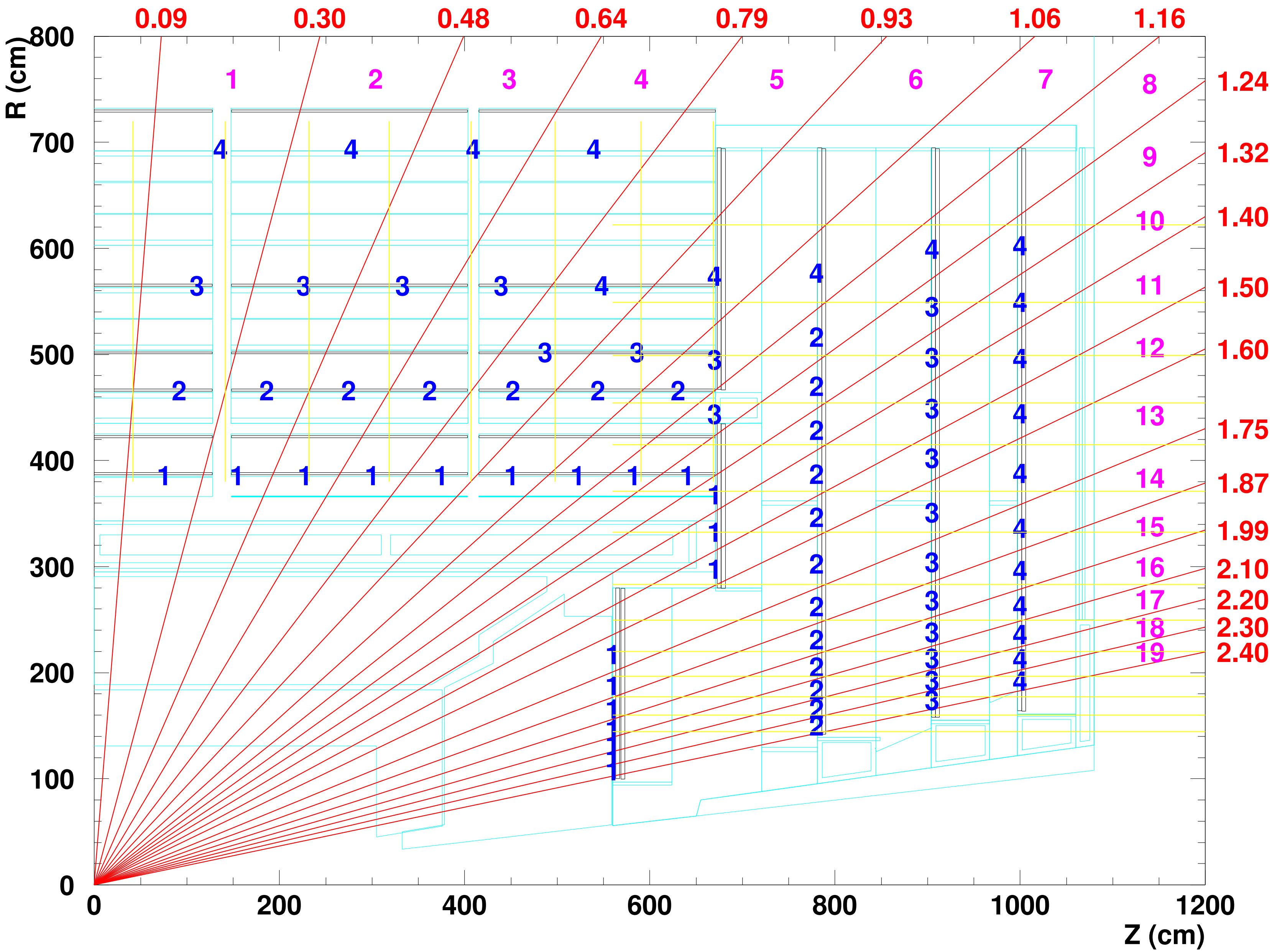
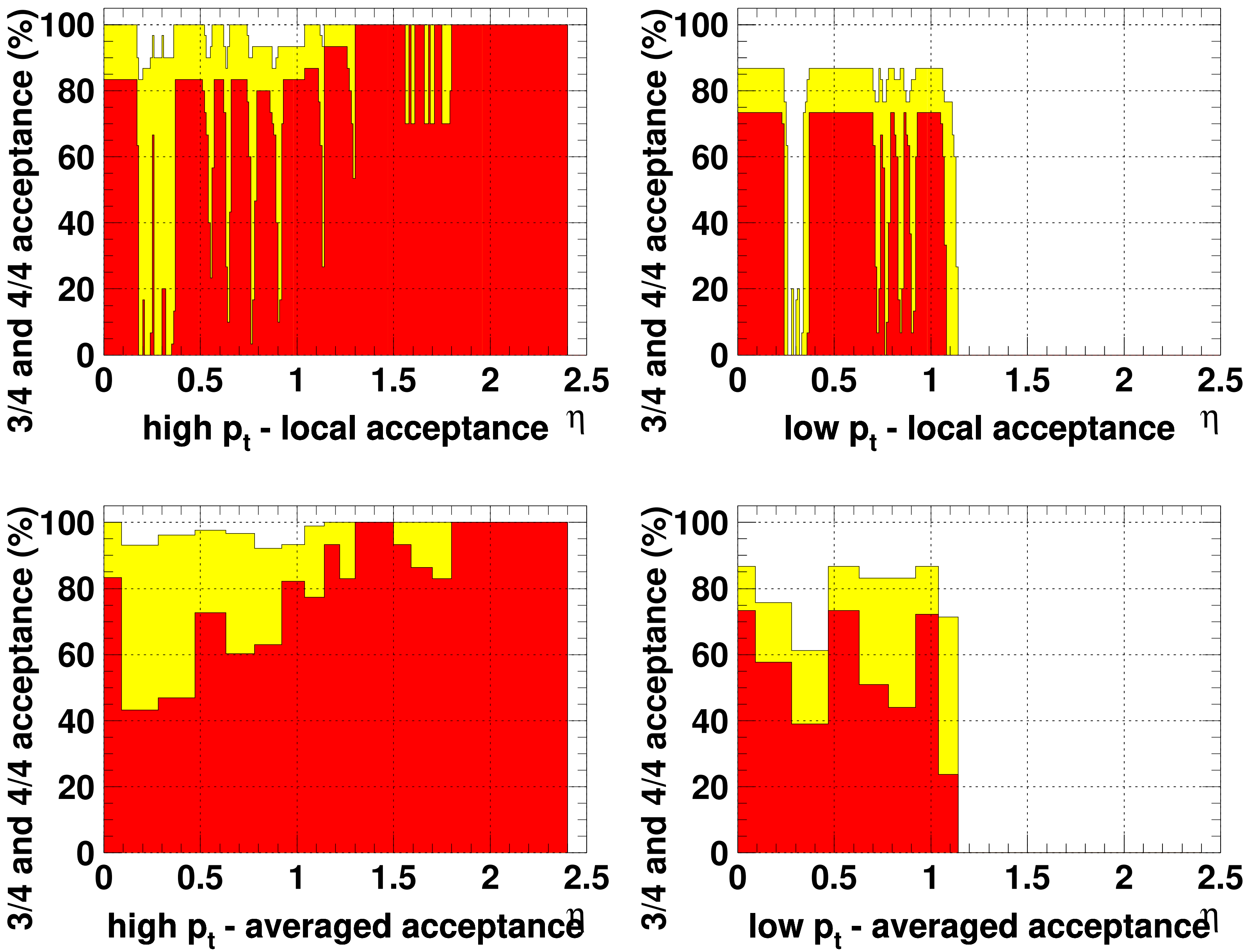
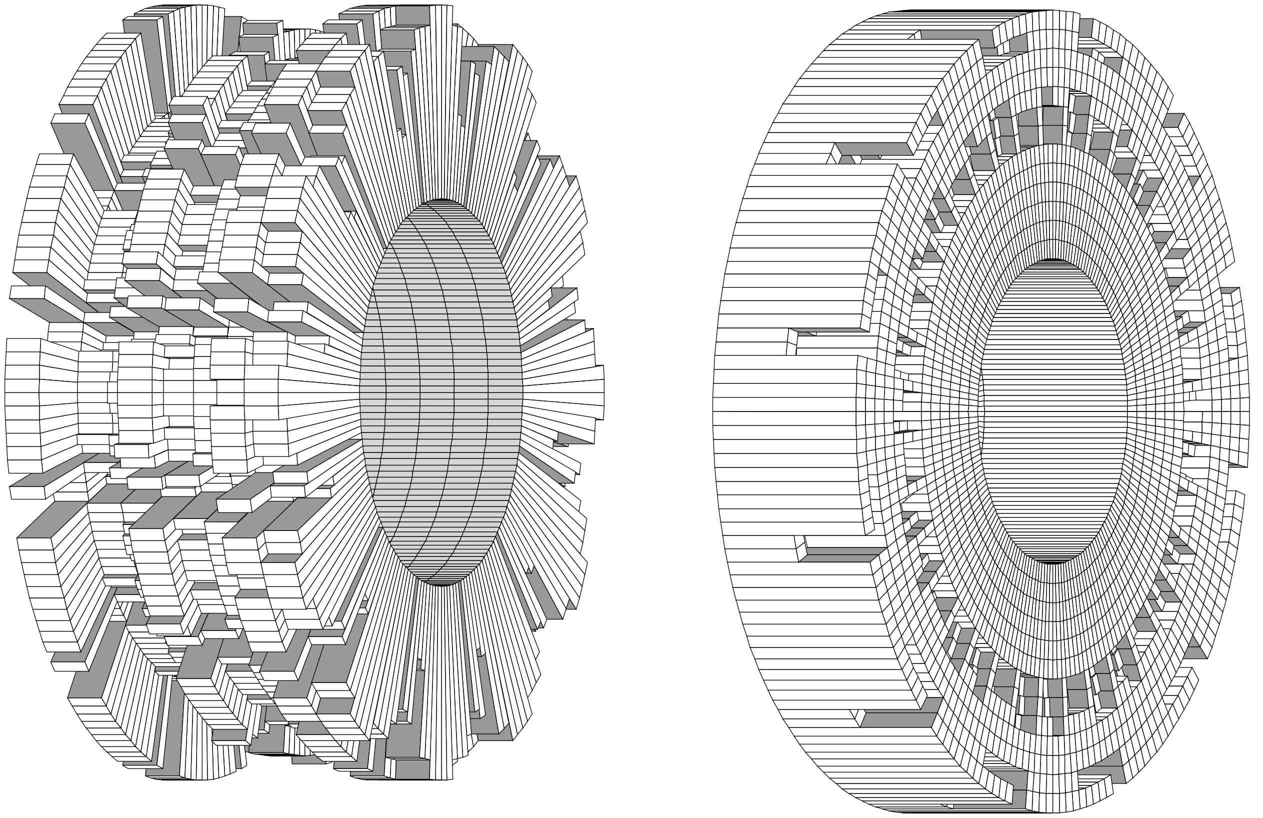
- **RPC trigger simulation package MRPC implemented in CMSIM 100 by Marcin Konecki**
  - *http://cmsdoc.cern.ch/~wrochna/mrpc/mrpc.ps*
- **Recent muon geometry available in CMSIM**
  - barrel by Anna Meneguzzo
  - endcap by Yuri Fisyak
- **RPC trigger acceptance has been calculated**
  - 2 cm dead area around each border of RPC
  - 4 RPC planes (one per station) used for high p_t
  - 2nd MB2 plane used to cover acceptance gaps due to small endcap radius (see fig.)
  - 2 planes in MB1 and 2 in MB2 used for low p_t



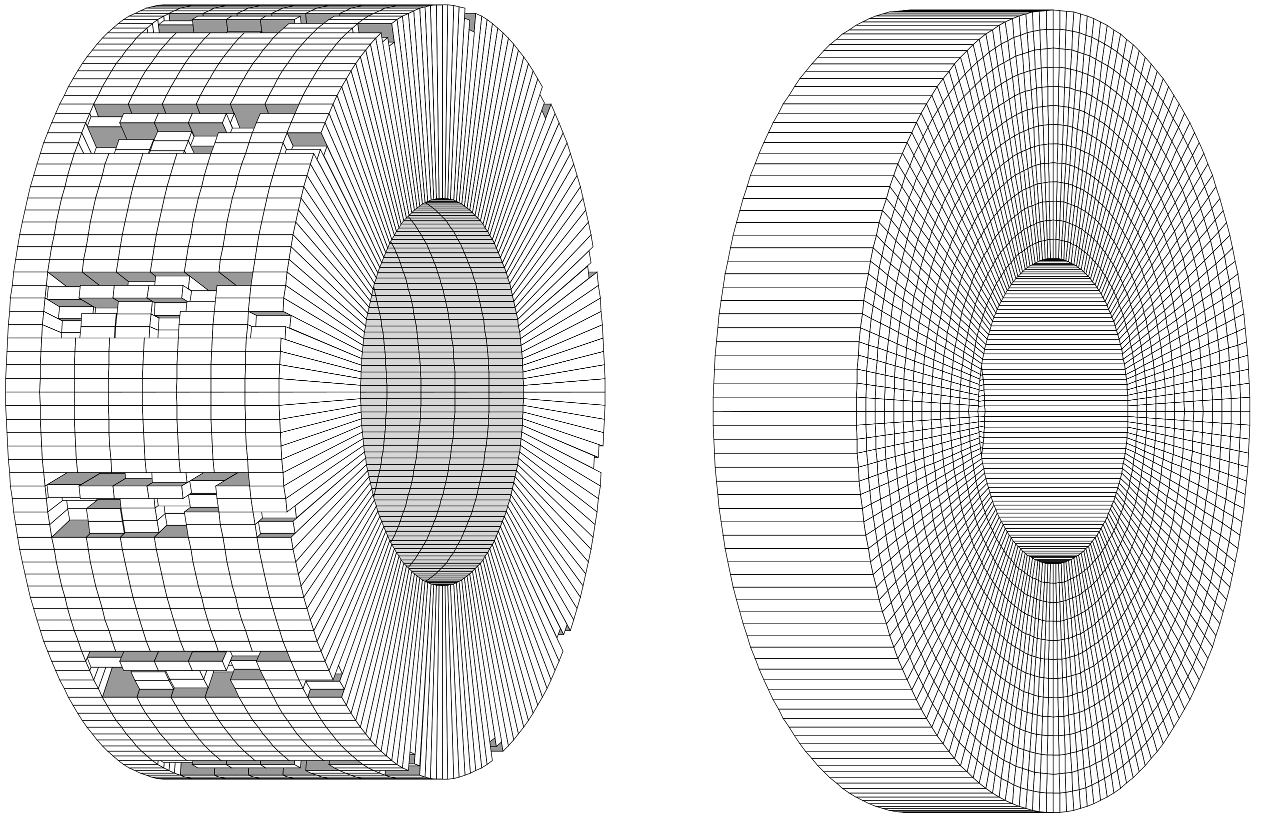
R (cm)
Z (cm)
0
100
200
300
400
500
600
700
800
0
200
400
600
800
1000
1200
0.09
0.30
0.48
0.64
0.79
0.93
1.06
1.16
1.24
1.32
1.40
1.50
1.60
1.75
1.87
1.99
2.10
2.20
2.30
2.40
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19



3/4 and 4/4 acceptance (%)
high p_t - local acceptance
low p_t - local acceptance
high p_t - averaged acceptance
low p_t - averaged acceptance
η
0
20
40
60
80
100
0
0.5
1
1.5
2
2.5

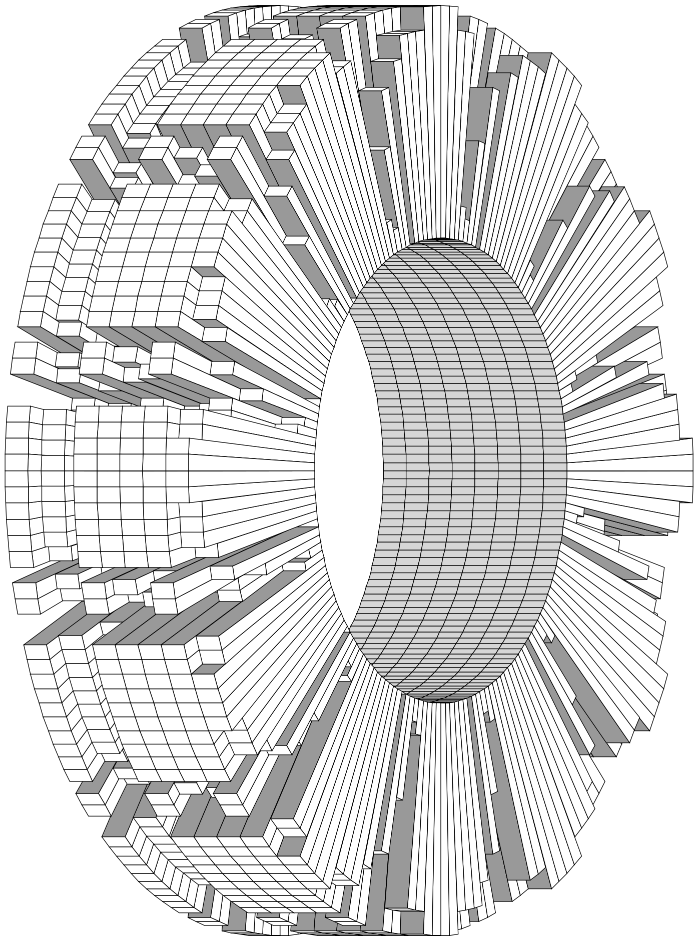


4/4 acceptance - high p_t

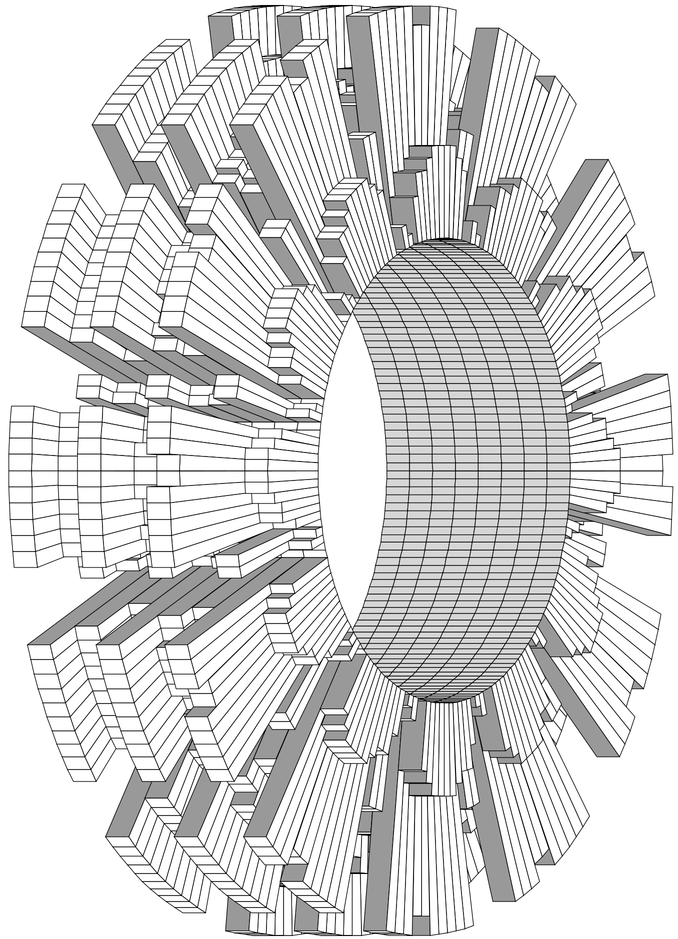


3/4 acceptance - high p_t

RPC trigger acceptance at low p_t



3/4



4/4

3/4 acceptance - low p_t

4/4 acceptance - low p_t