EM MC-data comparison

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□ Info: Electrons

- **Data: Z reprocessed w/ p11.12.01 by Marco**
- **MC: $Z- > ee$ generated by CAL Task Force CTF09, processed w/ p11.13.01**

□ Using em_util package ver. v00-02-54

Electron selections

- **Common cuts in both samples:**

  ◦ **ID cuts: v2.1**

  ◦ **Kinematic cuts:** $ET > 15$ **GeV,** $|\eta_{det}| \notin [1.1, 1.5]$**,** $|\eta_{det}| < 2.5$

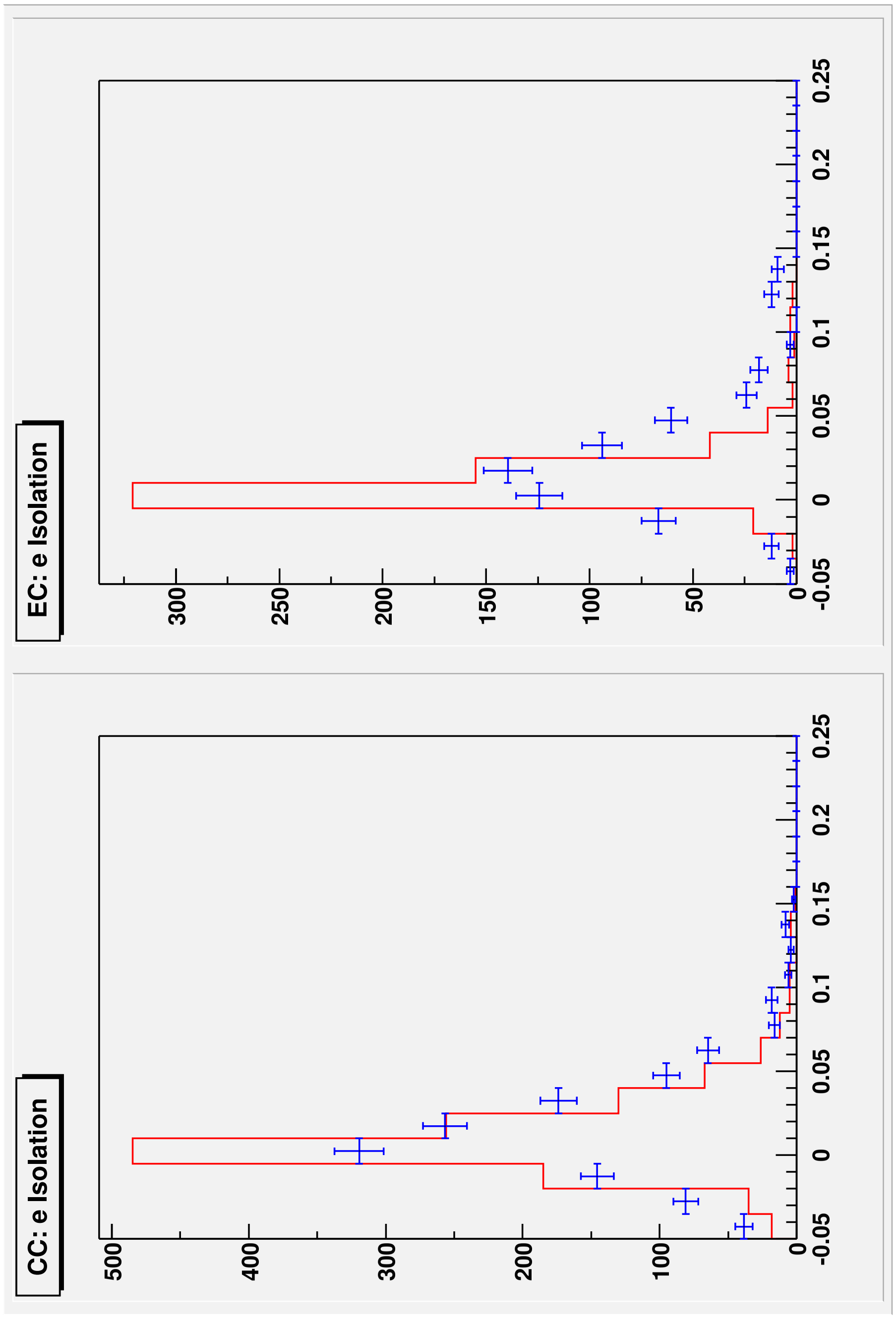
  ◦ **Topology cut: Exactly two EM candidates with inv. mass > 50 GeV**

- **Other cuts:**

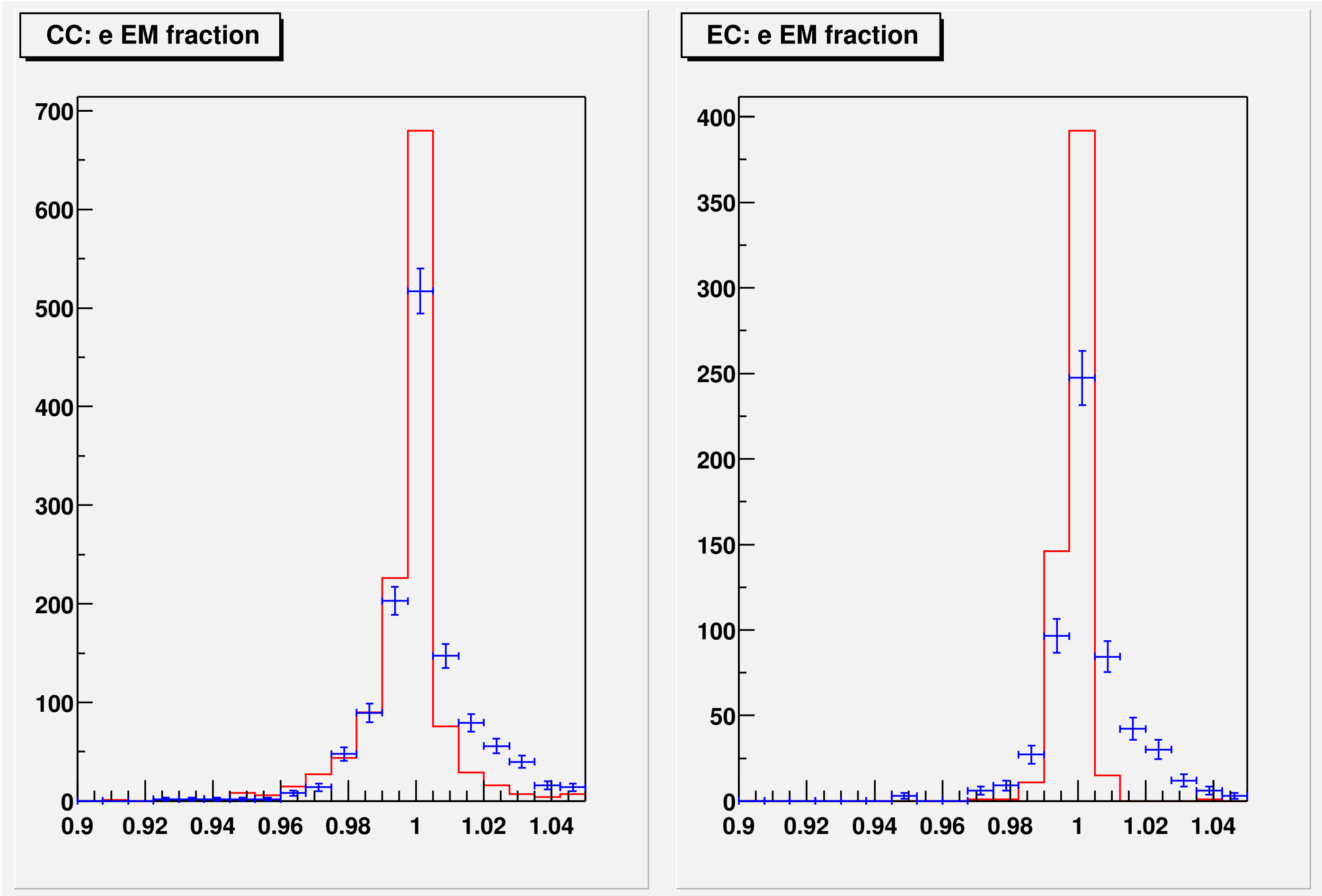
  ◦ **Data: at least one track matching (401) to reduce fakes**

Isolation

Red line: MC, Blue cross: Data

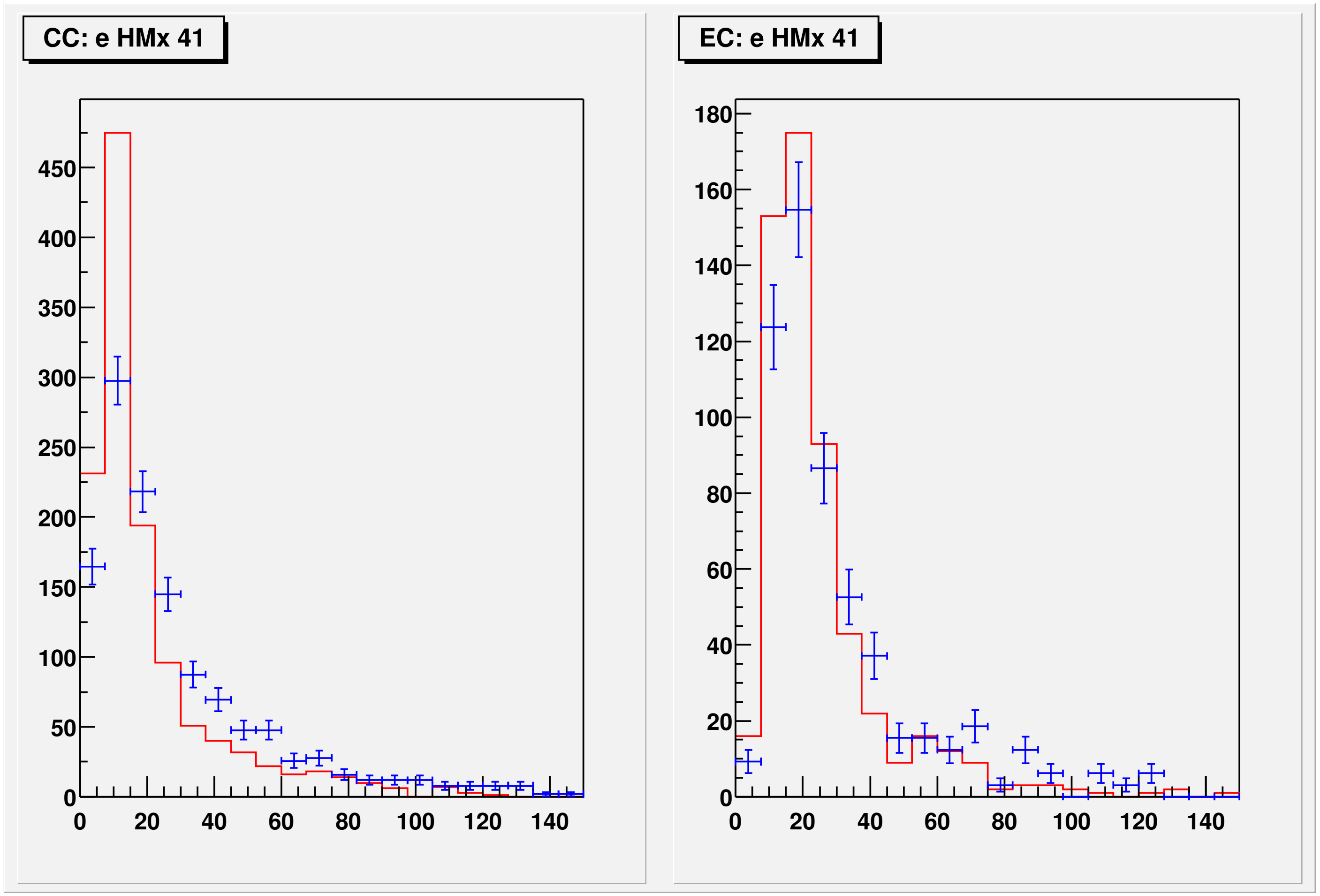


EM fraction



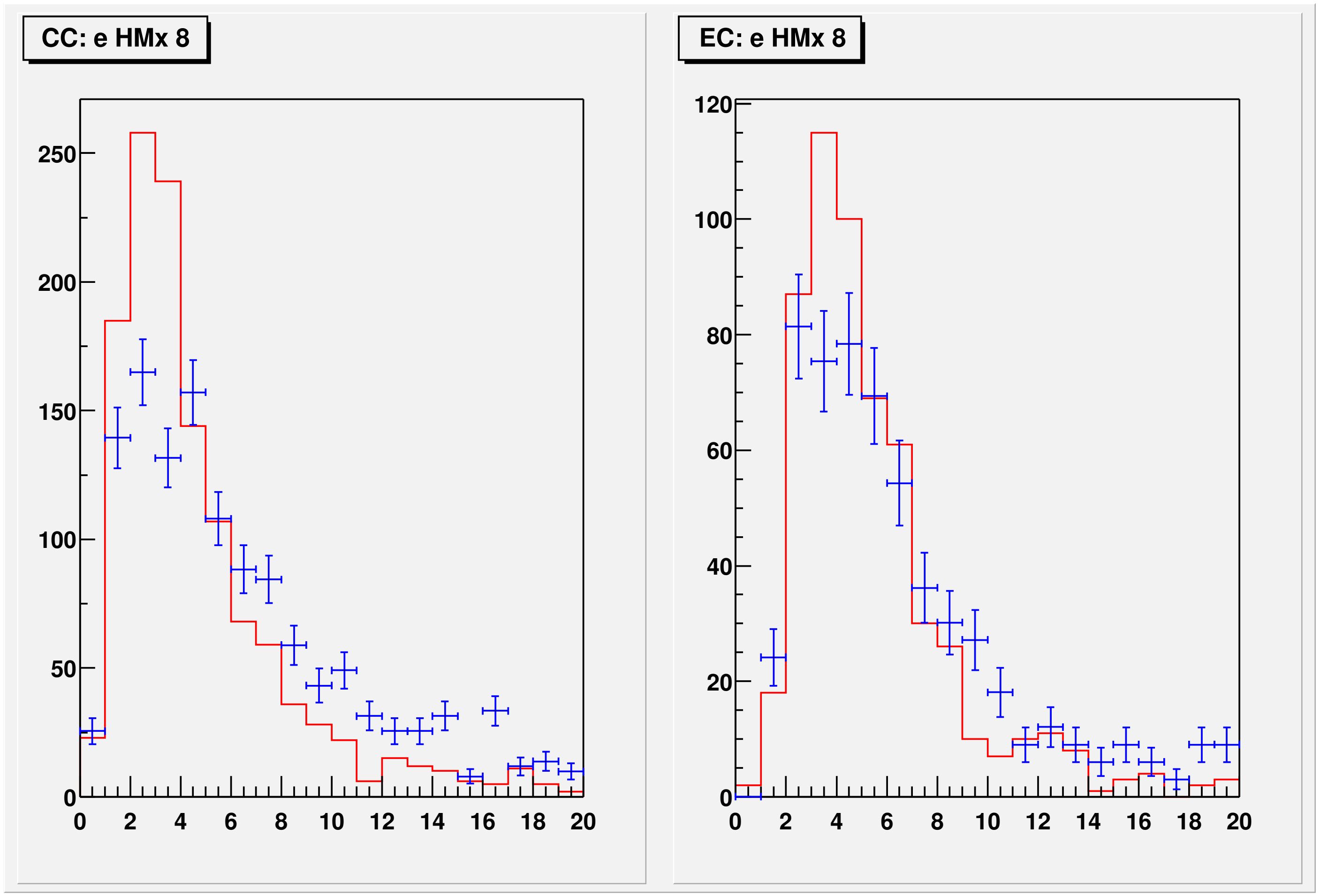
CC: e EM fraction
700
600
500
400
300
200
100
0
0.9
0.92
0.94
0.96
0.98
1
1.02
1.04
EC: e EM fraction
400
350
300
250
200
150
100
50
0
0.9
0.92
0.94
0.96
0.98
1
1.02
1.04

HMx41

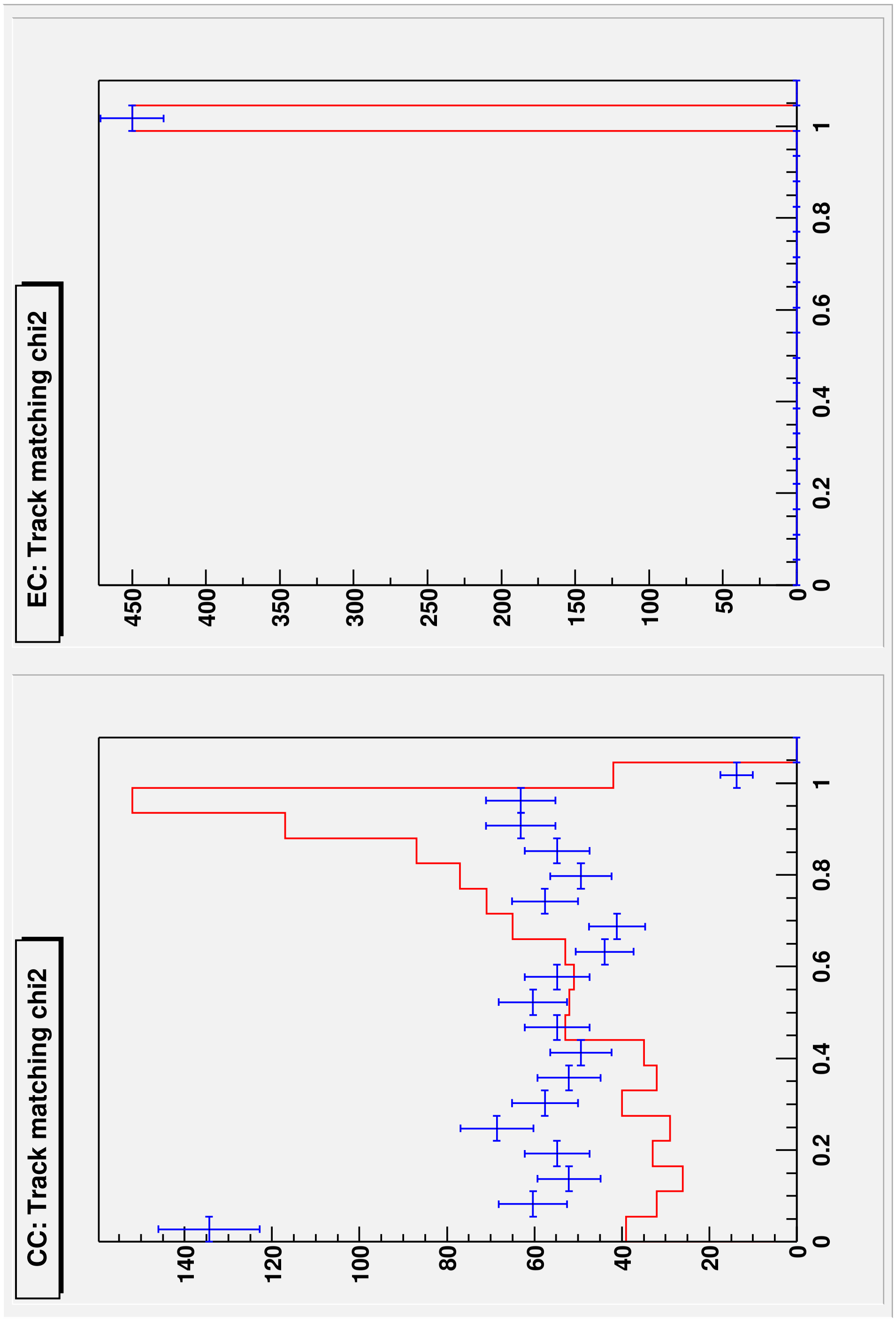


Vu Anh Tuan

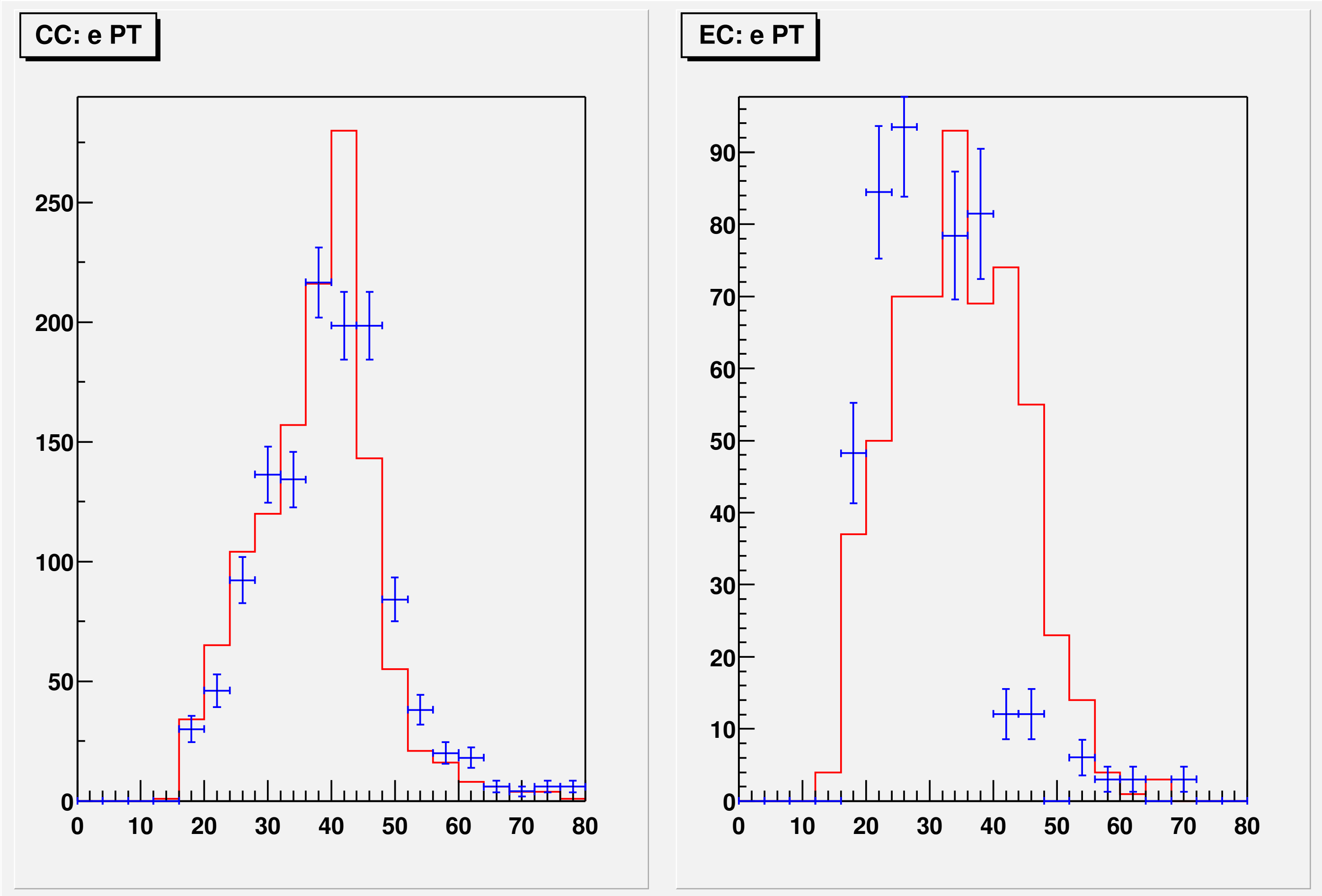
HMx8


CC: e HMx 8
EC: e HMx 8
0
50
100
150
200
250
0
20
40
60
80
100
120
0 2 4 6 8 10 12 14 16 18 20
0 2 4 6 8 10 12 14 16 18 20

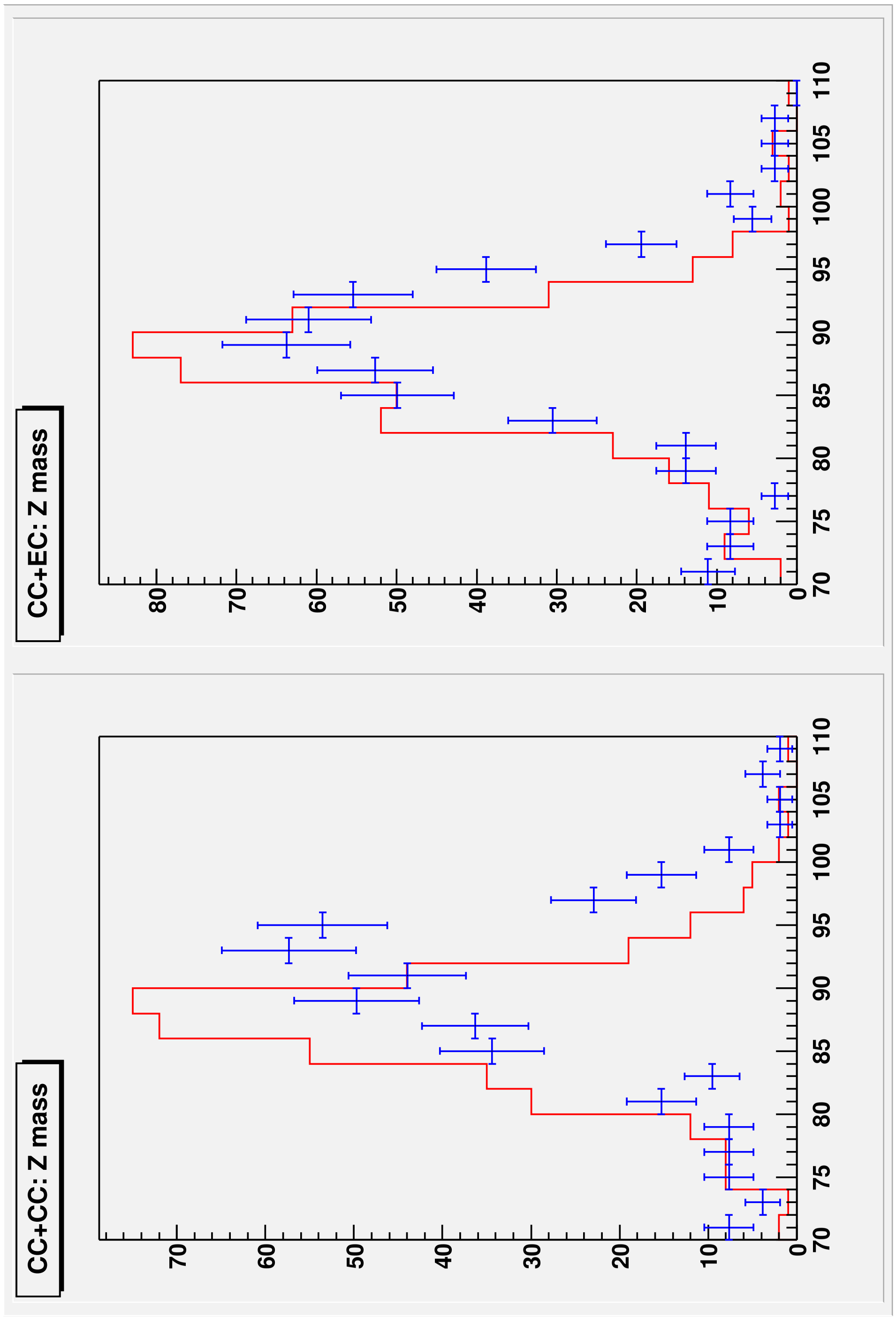
χ^2 probability of track match



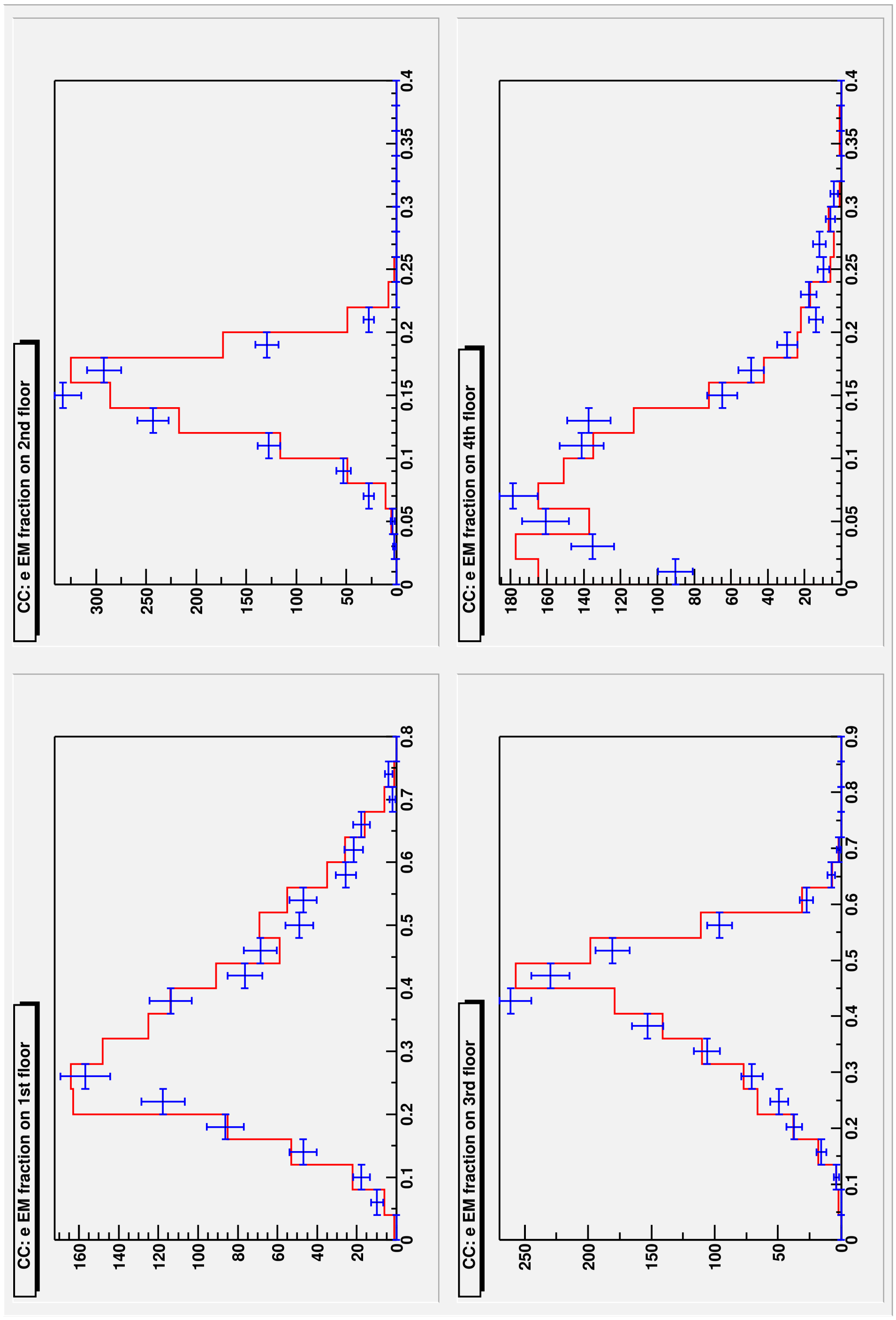
PT



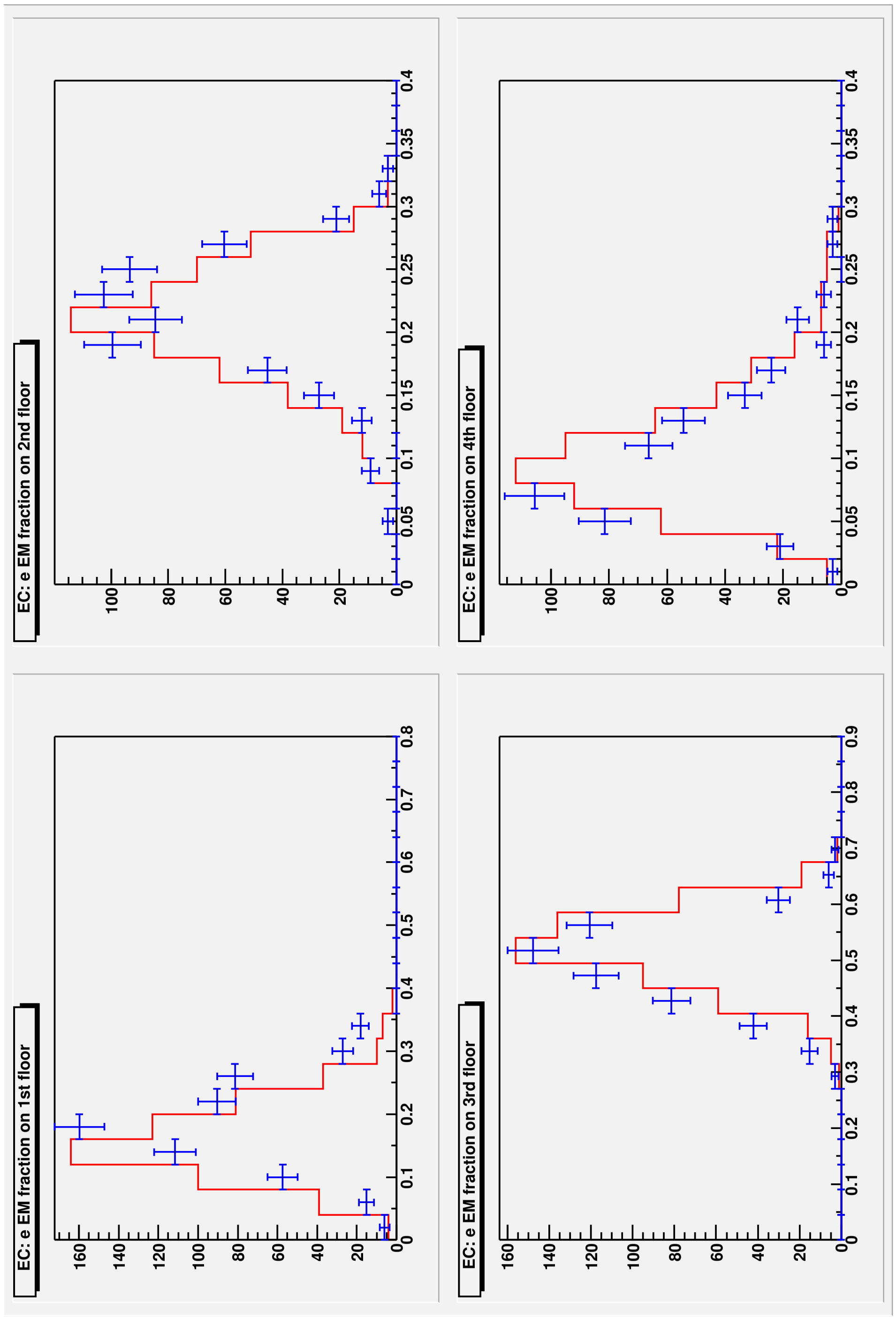
Di-EM mass



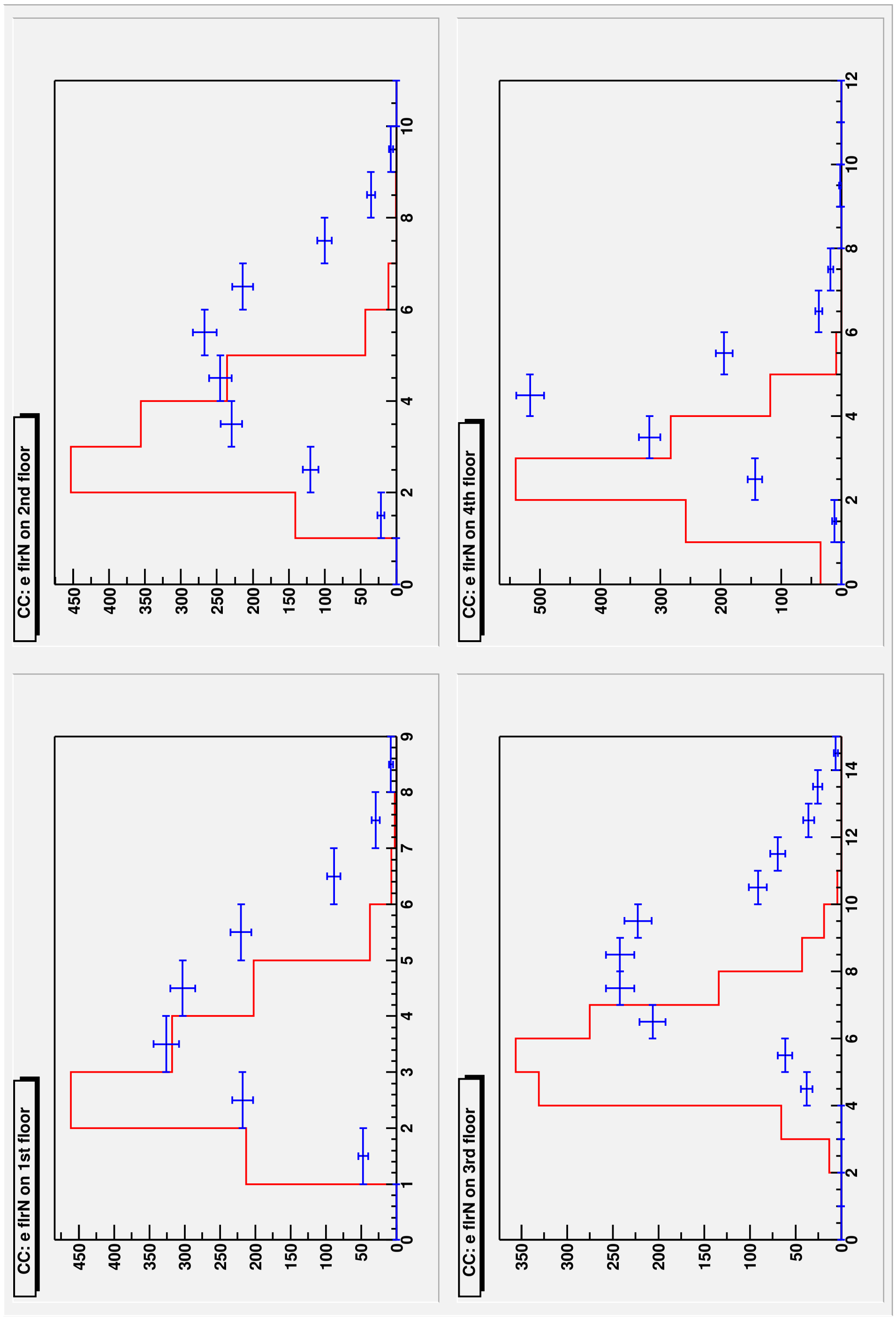
EMF on EM floors in CC



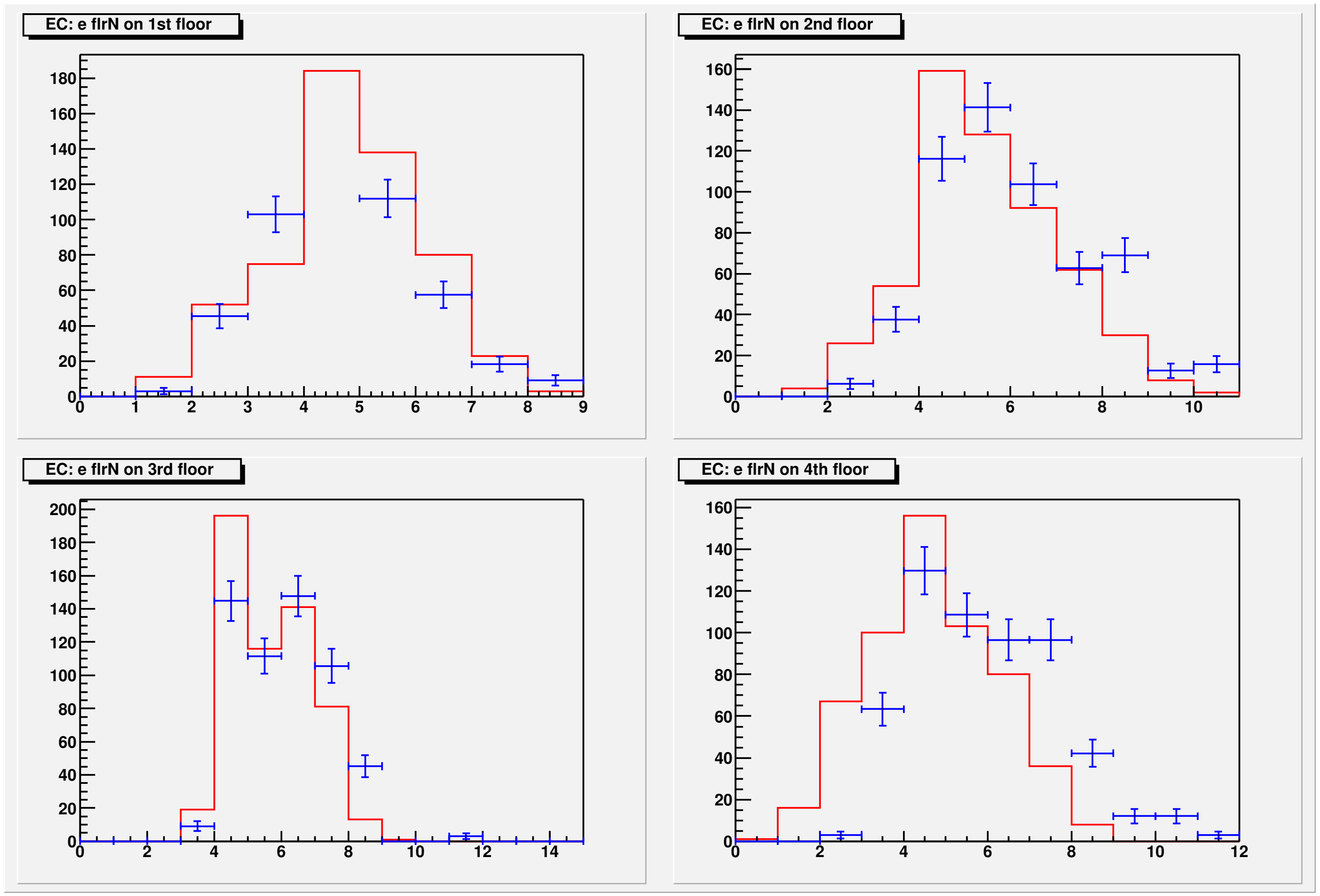
EMF on EM floors in EC



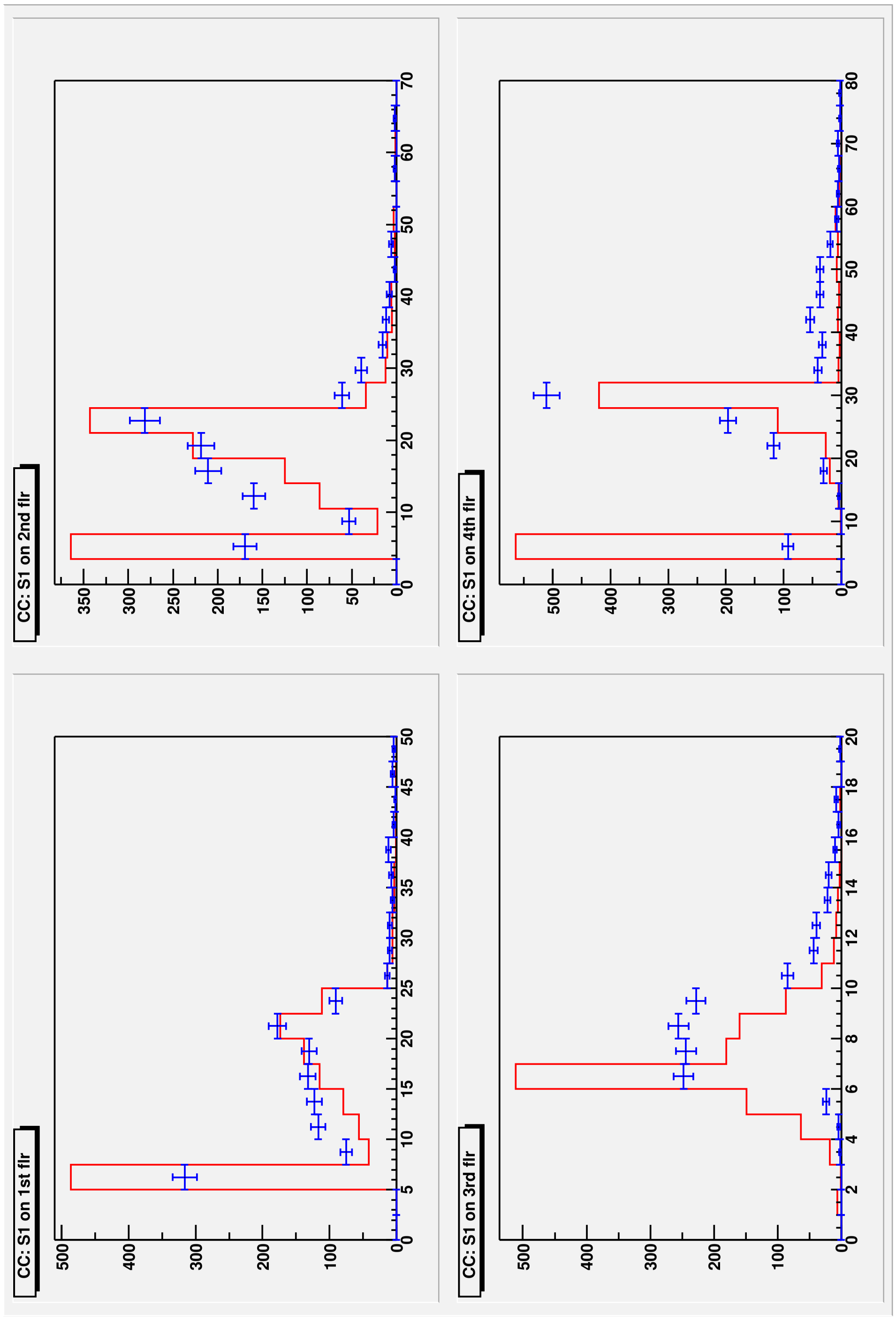
Nch on EM floors in CC



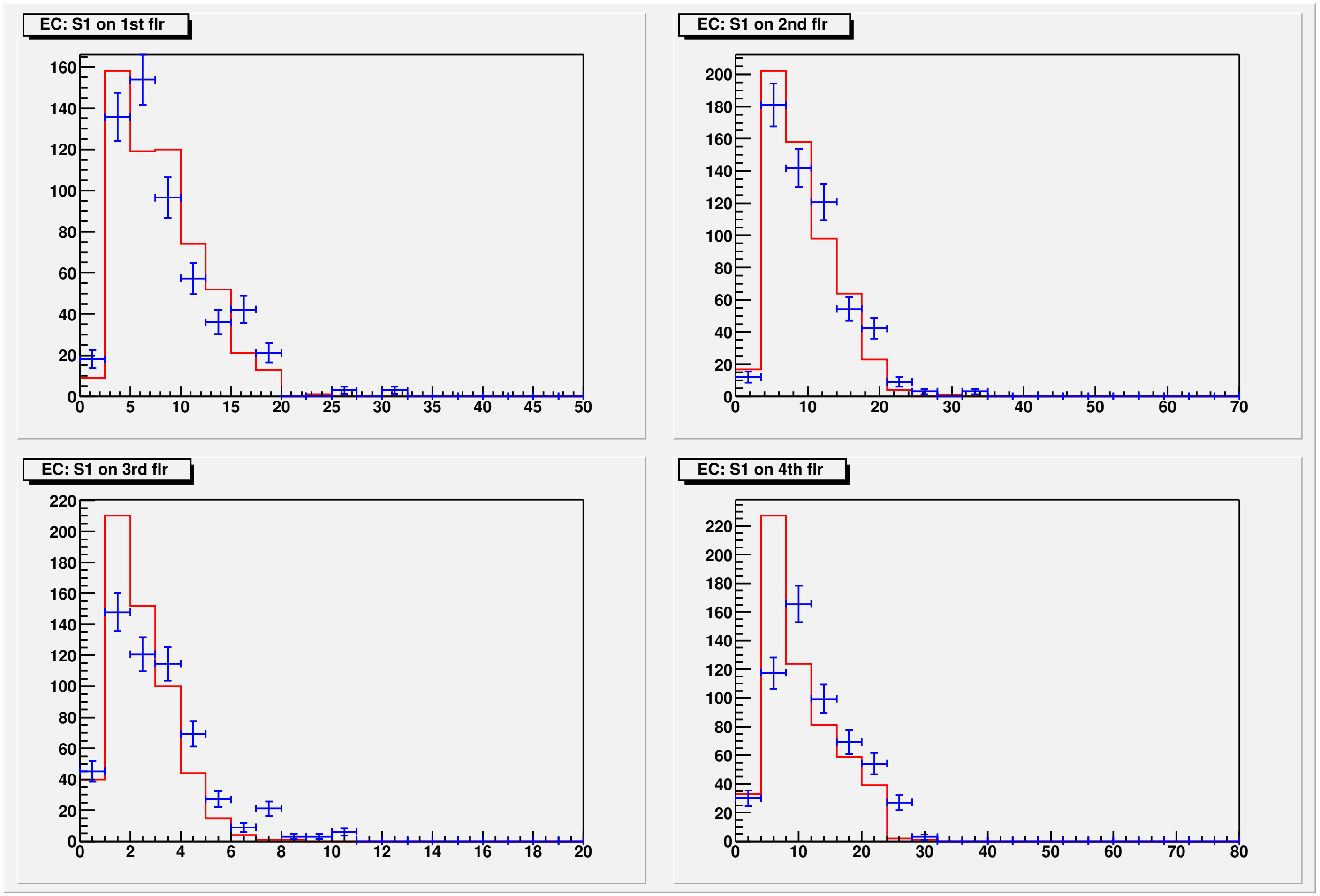
Nch on EM floors in EC



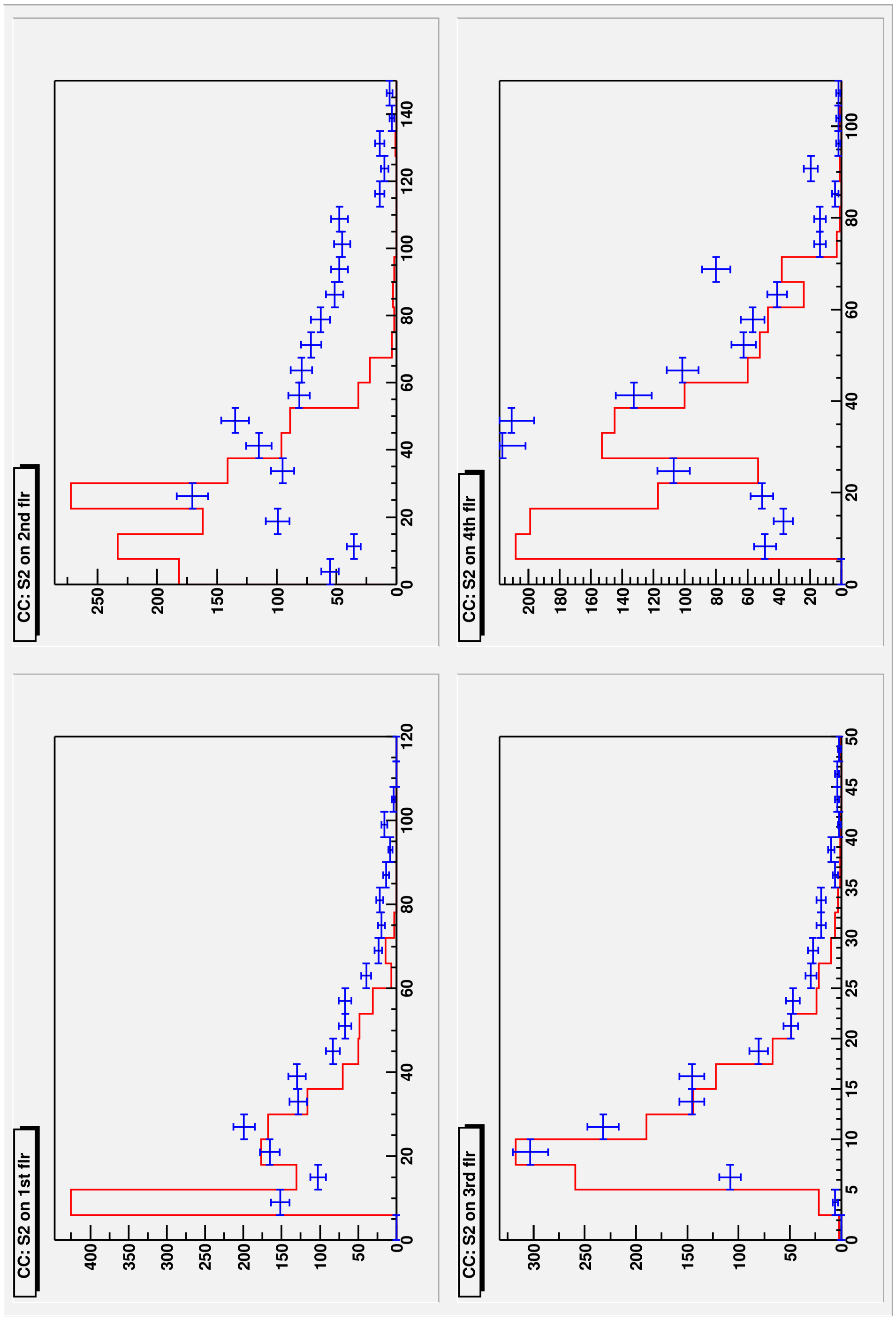
S1 on EM floors in CC



S1 on EM floors in EC



S2 on EM floors in CC



S2 on EM floors in EC