First look at the lambda

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with Munir's help

Ppg016 meting

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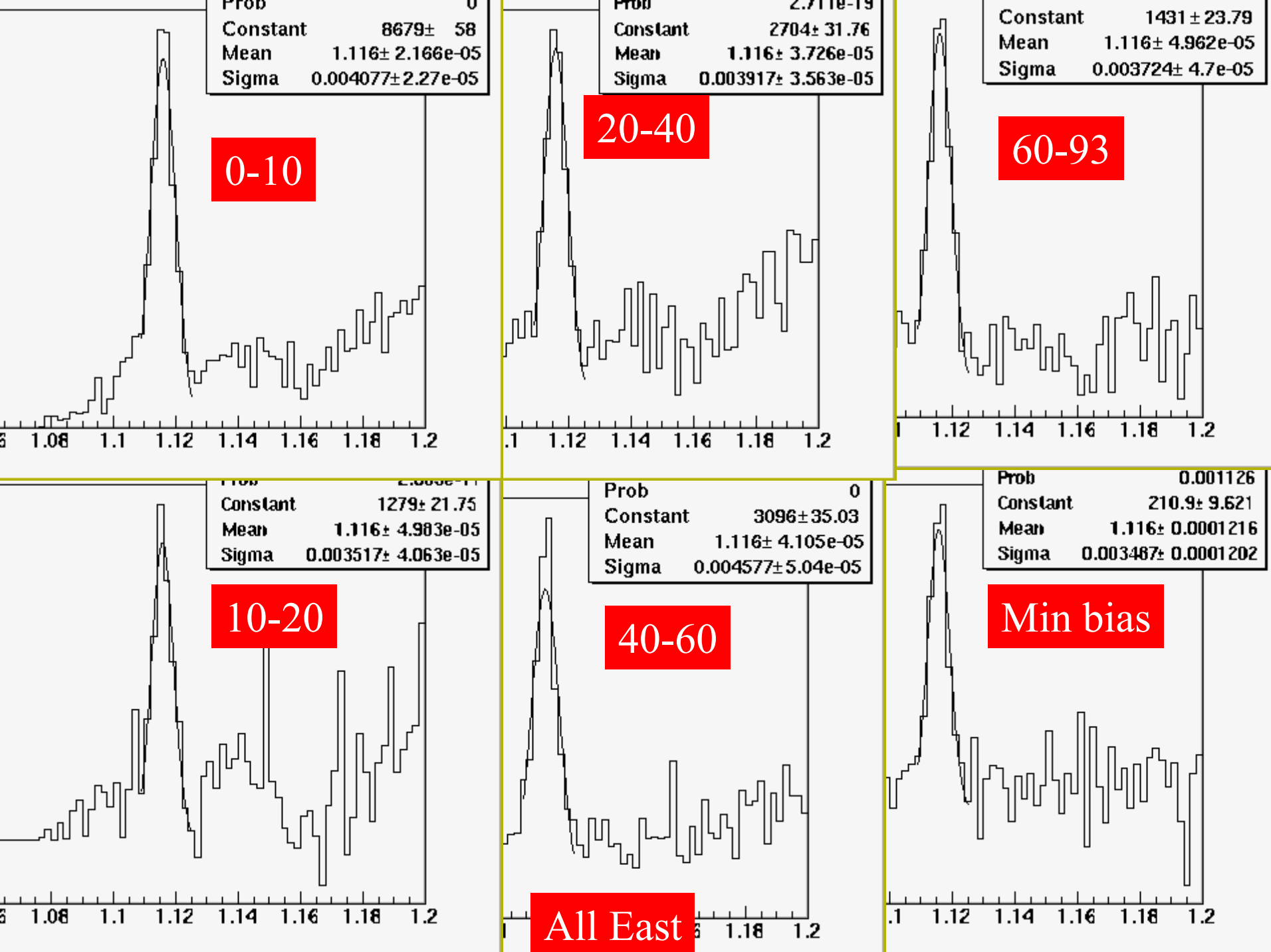
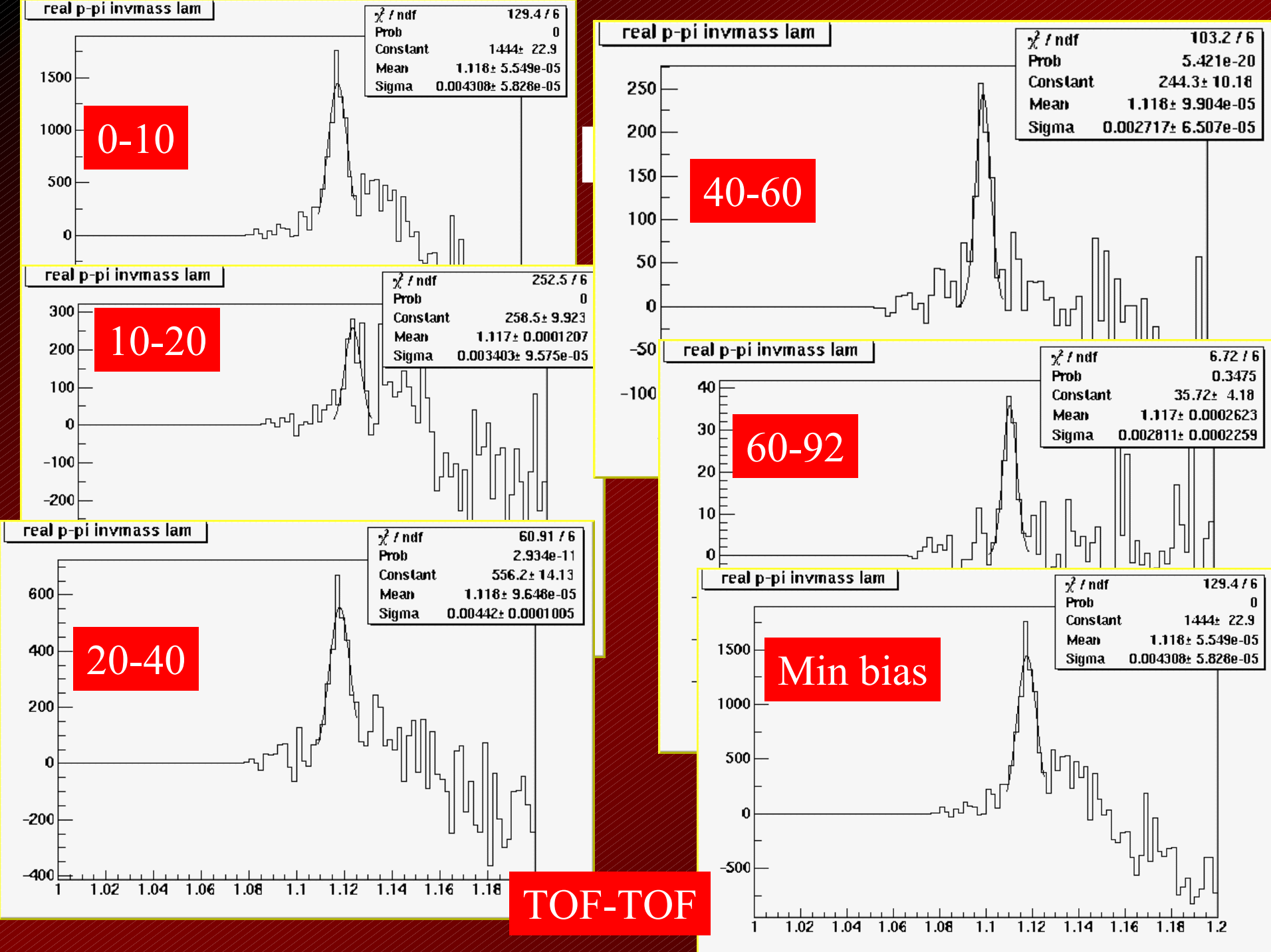
Procedure

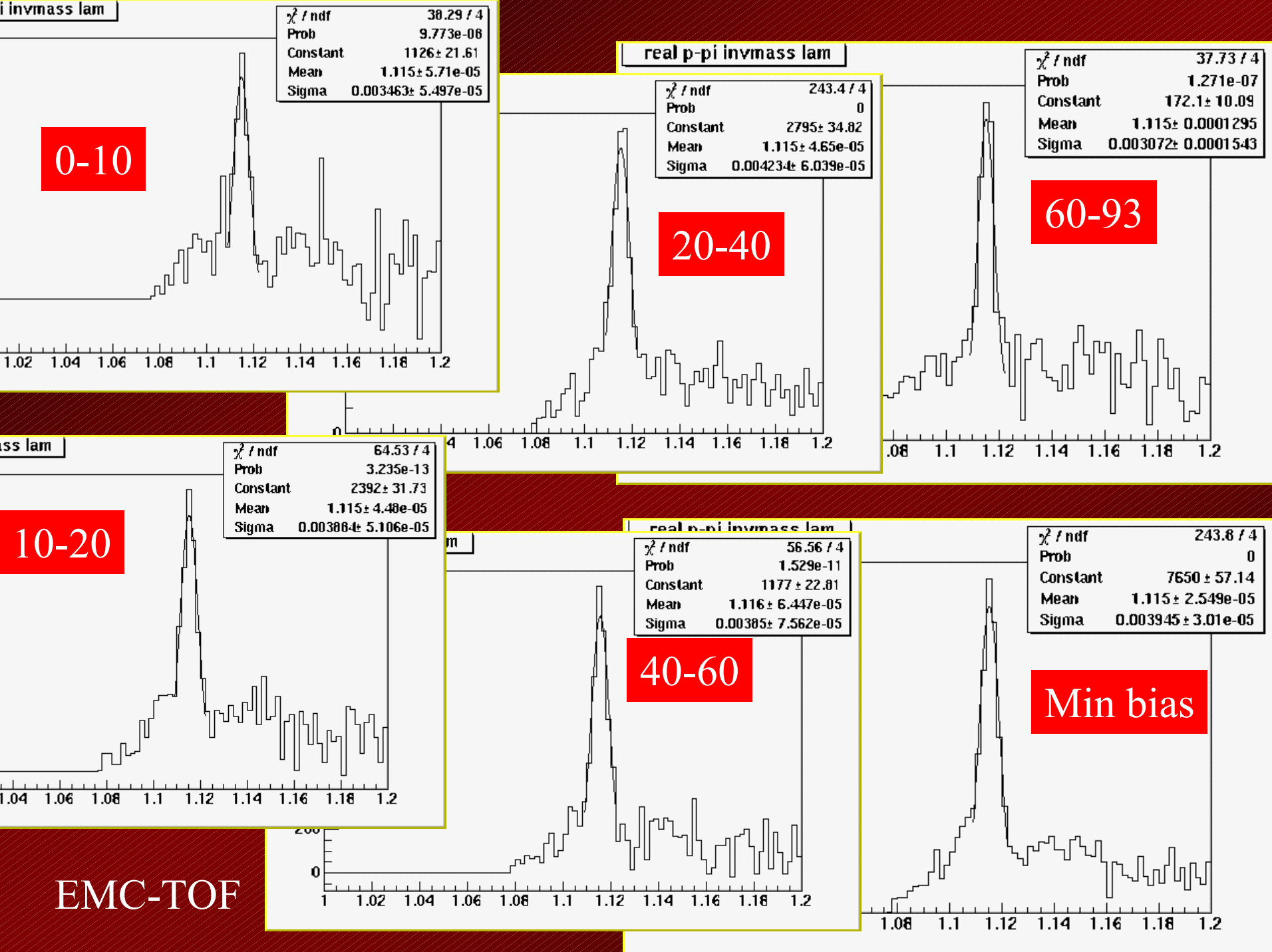
- After an unsuccessful search for the lambda munir provides me with an ntuple with a nice lambda in it from tof-tof
- Also produced tof-emc, emc-emc
- Normalization is just between 1.2 –3 GeV
- Rough gaussian fit
- Results are very raw, I don’t trust them yet
- Fits are not so good either

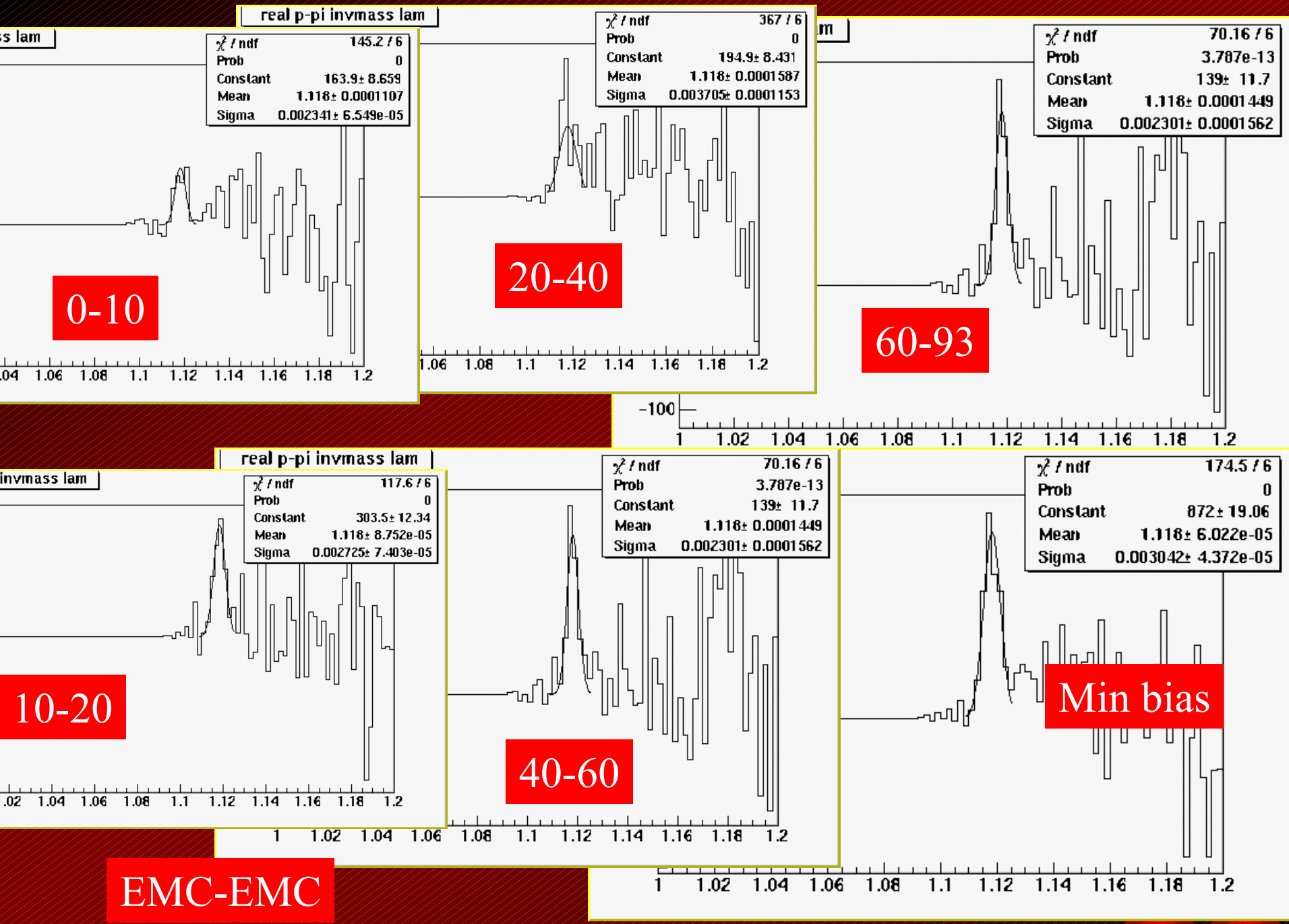

Prob 0
Constant 8679± 58
Mean 1.116± 2.166e-05
Sigma 0.004077± 2.27e-05
0-10
Prob 2.711e-19
Constant 2704± 31.76
Mean 1.116± 3.726e-05
Sigma 0.003917± 3.563e-05
20-40
Constant 1431 ± 23.79
Mean 1.116± 4.962e-05
Sigma 0.003724± 4.7e-05
60-93
Constant 1279± 21.75
Mean 1.116± 4.983e-05
Sigma 0.003517± 4.063e-05
10-20
Prob 0
Constant 3096± 35.03
Mean 1.116± 4.105e-05
Sigma 0.004577± 5.04e-05
40-60
Prob 0.001126
Constant 210.9± 9.621
Mean 1.116± 0.0001216
Sigma 0.003487± 0.0001202
Min bias
All East
1.08 1.1 1.12 1.14 1.16 1.18 1.2

All east

Cent	Mass (GeV)	err	Width (MeV)	err
0-10	1.116	.00002	4.1	.02
10-20	1.116	.00005	3.5	.04
20-40	1.116	.00004	3.9	.04
40-60	1.116	.00004	4.6	.05
60-93	1.116	.00005	3.7	.05
Min bias	1.116	.00001	3.5	.01


real p-pi invmass lam
χ² / ndf 129.4 / 6
Prob 0
Constant 1444± 22.9
Mean 1.118± 5.549e-05
Sigma 0.004308± 5.826e-05
0-10
real p-pi invmass lam
χ² / ndf 252.5 / 6
Prob 0
Constant 258.5± 9.923
Mean 1.117± 0.0001207
Sigma 0.003403± 9.575e-05
10-20
real p-pi invmass lam
χ² / ndf 60.91 / 6
Prob 2.934e-11
Constant 556.2± 14.13
Mean 1.118± 9.648e-05
Sigma 0.00442± 0.0001005
20-40
real p-pi invmass lam
χ² / ndf 103.2 / 6
Prob 5.421e-20
Constant 244.3± 10.18
Mean 1.118± 9.904e-05
Sigma 0.002717± 6.507e-05
40-60
real p-pi invmass lam
χ² / ndf 6.72 / 6
Prob 0.3475
Constant 35.72± 4.18
Mean 1.117± 0.0002623
Sigma 0.002811± 0.0002259
60-92
real p-pi invmass lam
χ² / ndf 129.4 / 6
Prob 0
Constant 1444± 22.9
Mean 1.118± 5.549e-05
Sigma 0.004308± 5.826e-05
Min bias
TOF-TOF


i invmass lam
χ² / ndf 38.29 / 4
Prob 9.773e-08
Constant 1126 ± 21.61
Mean 1.115 ± 5.71e-05
Sigma 0.003463 ± 5.497e-05
0-10
real p-pi invmass lam
χ² / ndf 243.4 / 4
Prob 0
Constant 2795 ± 34.82
Mean 1.115 ± 4.65e-05
Sigma 0.004234 ± 6.039e-05
20-40
χ² / ndf 37.73 / 4
Prob 1.271e-07
Constant 172.1 ± 10.09
Mean 1.115 ± 0.0001295
Sigma 0.003072 ± 0.0001543
60-93
ss lam
χ² / ndf 64.53 / 4
Prob 3.235e-13
Constant 2392 ± 31.73
Mean 1.115 ± 4.48e-05
Sigma 0.003864 ± 5.106e-05
10-20
χ² / ndf 56.56 / 4
Prob 1.529e-11
Constant 1177 ± 22.81
Mean 1.116 ± 6.447e-05
Sigma 0.00385 ± 7.562e-05
40-60
χ² / ndf 243.8 / 4
Prob 0
Constant 7650 ± 57.14
Mean 1.115 ± 2.549e-05
Sigma 0.003945 ± 3.01e-05
Min bias
EMC-TOF


real p-pi invmass lam
χ² / ndf 145.2 / 6
Prob 0
Constant 163.9± 8.659
Mean 1.118± 0.0001107
Sigma 0.002341± 6.549e-05
0-10
χ² / ndf 367 / 6
Prob 0
Constant 194.9± 8.431
Mean 1.118± 0.0001587
Sigma 0.003705± 0.0001153
20-40
χ² / ndf 70.16 / 6
Prob 3.787e-13
Constant 139± 11.7
Mean 1.118± 0.0001449
Sigma 0.002301± 0.0001562
60-93
-100
1 1.02 1.04 1.06 1.08 1.1 1.12 1.14 1.16 1.18 1.2
real p-pi invmass lam
χ² / ndf 117.6 / 6
Prob 0
Constant 303.5± 12.34
Mean 1.118± 8.752e-05
Sigma 0.002725± 7.403e-05
10-20
χ² / ndf 70.16 / 6
Prob 3.787e-13
Constant 139± 11.7
Mean 1.118± 0.0001449
Sigma 0.002301± 0.0001562
40-60
χ² / ndf 174.5 / 6
Prob 0
Constant 872± 19.06
Mean 1.118± 6.022e-05
Sigma 0.003042± 4.372e-05
Min bias
EMC-EMC

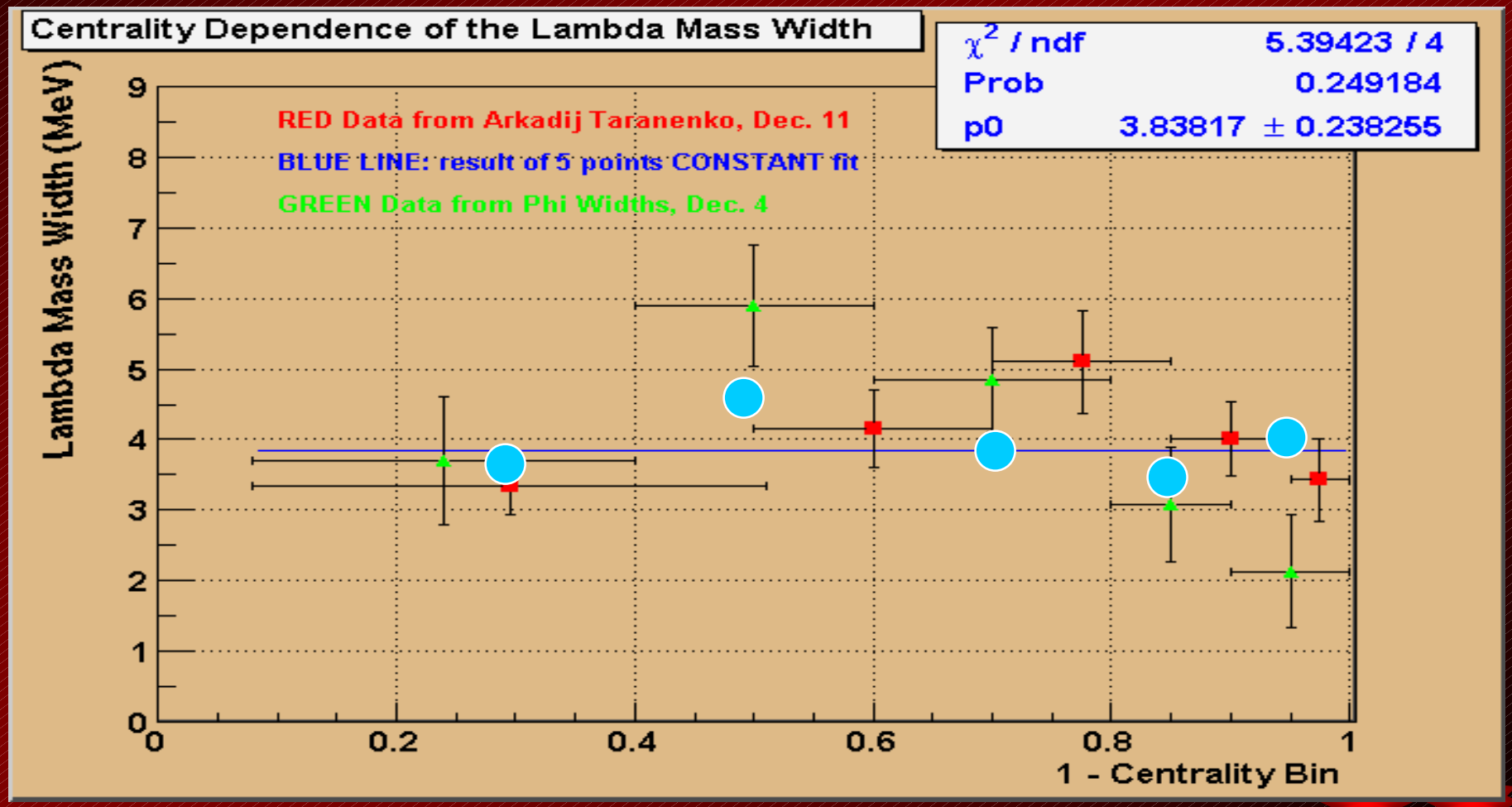
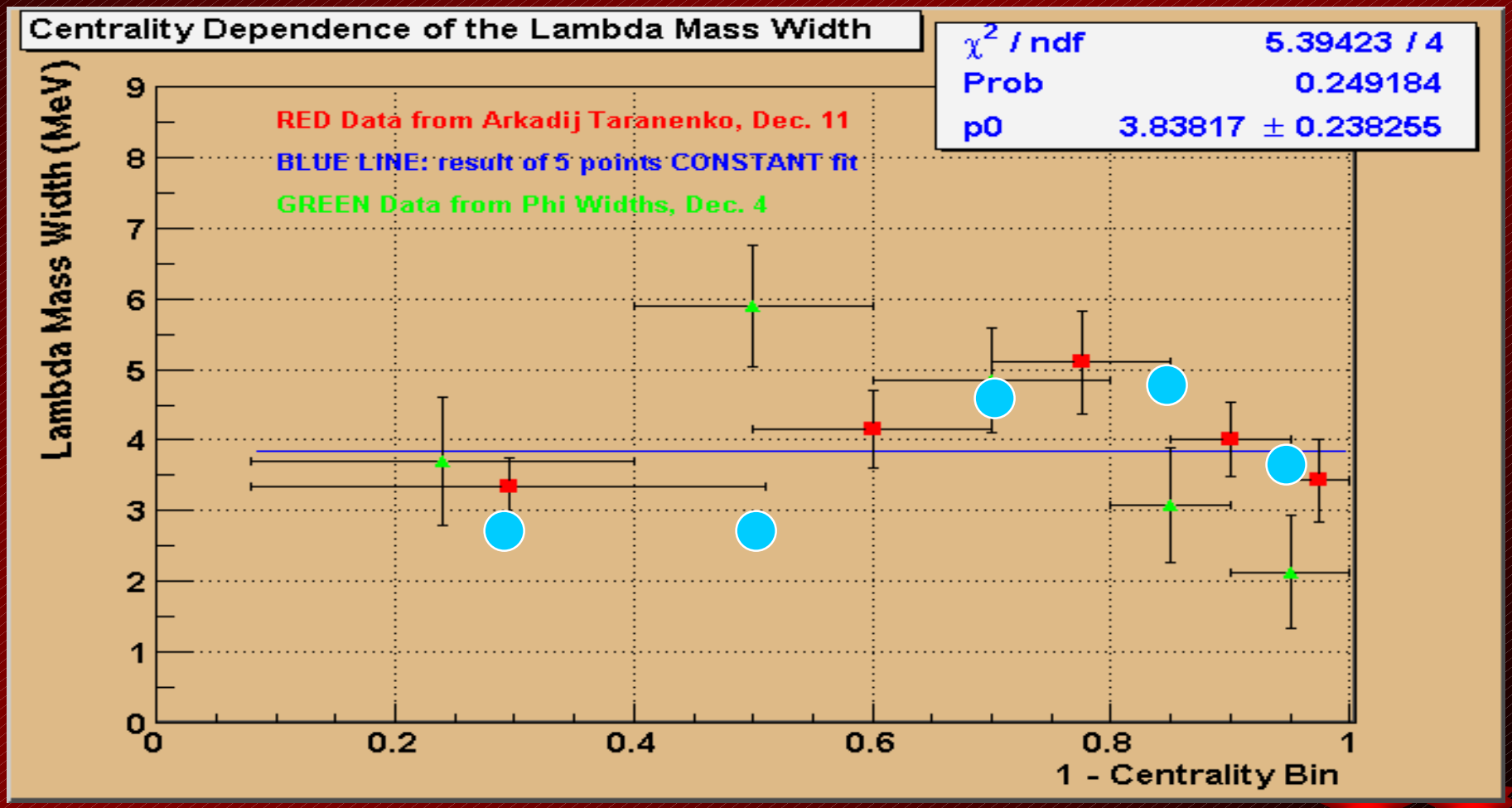
Mass (GeV)

Cent	TOF TOF	err	TOF EMC	err	EMC EMC	err
0-10	1.117	.0001	1.115	.00005	1.118	.0001
10-20	1.117	.0001	1.115	.00005	1.118	.00009
20-40	1.118	.0001	1.1115	.00005	1.118	.00016
40-60	1.118	.0001	1.1116	.00006	1.118	.00014
60-93	1.117	.0003	1.1115	.00010	1.114	.0005
MB	1.118	.00005	1.1115	.00003	1.118	.00006

Width (MeV)

Cent	TOF TOF	err	TOF EMC	err	EMC EMC	err
0-10	3.4	0.1	3.5	0.05	2.3	.06
10-20	4.9	0.14	3.9	0.05	2.7	.07
20-40	4.4	0.1	4.2	0.06	3.7	.11
40-60	2.7	0.1	3.9	0.06	2.3	.15
60-93	2.8	0.2	3.1	0.13	3.2	.3
MB	4.3	.05	3.9	0.03	3.0	.04

Lambda Mass Width (Tof-Tof Data from Arkadij, all East from RKS)



Lambda Mass Width (Tof-Tof Data from Arkadij, Tof-Tof from RKS)