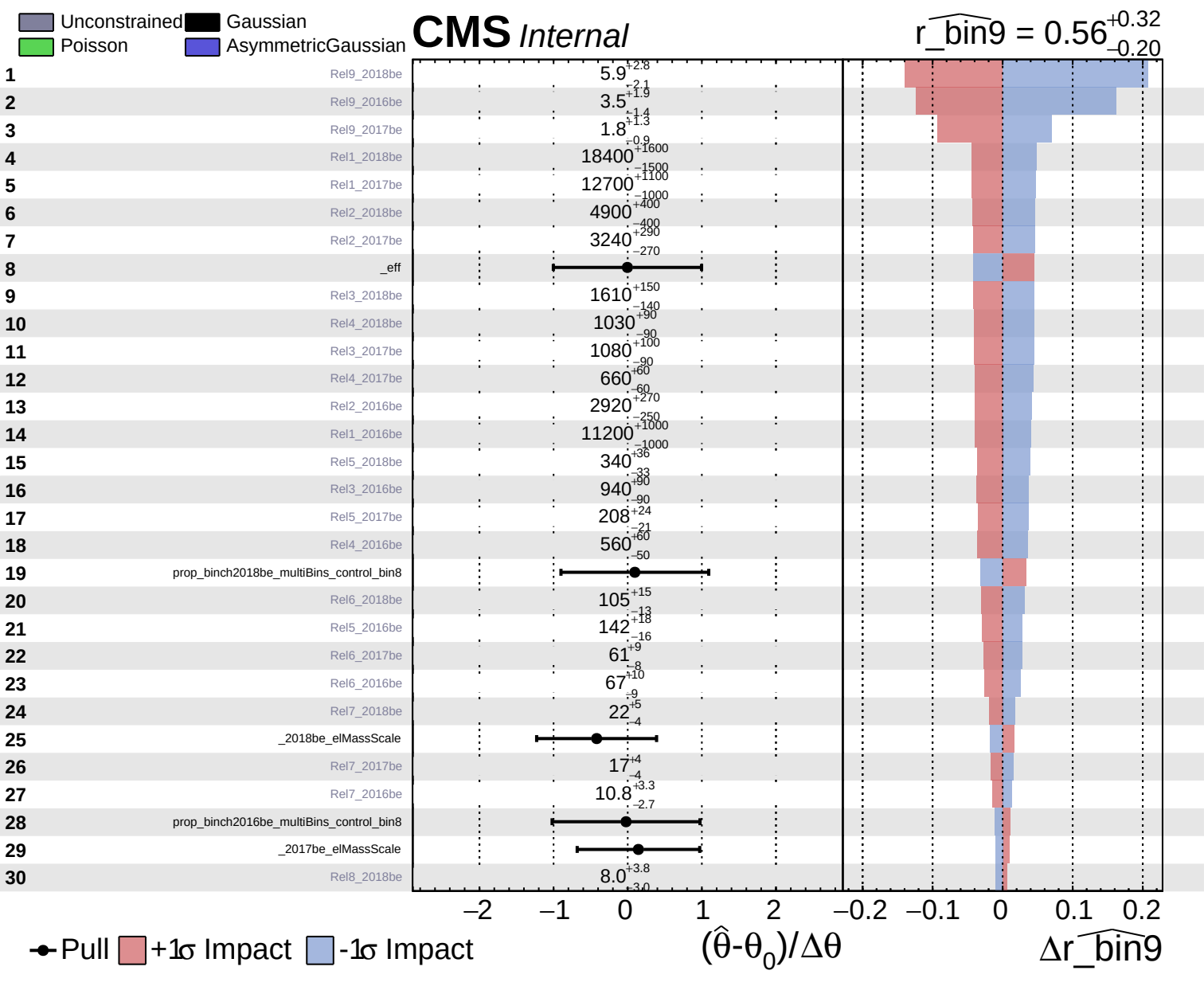
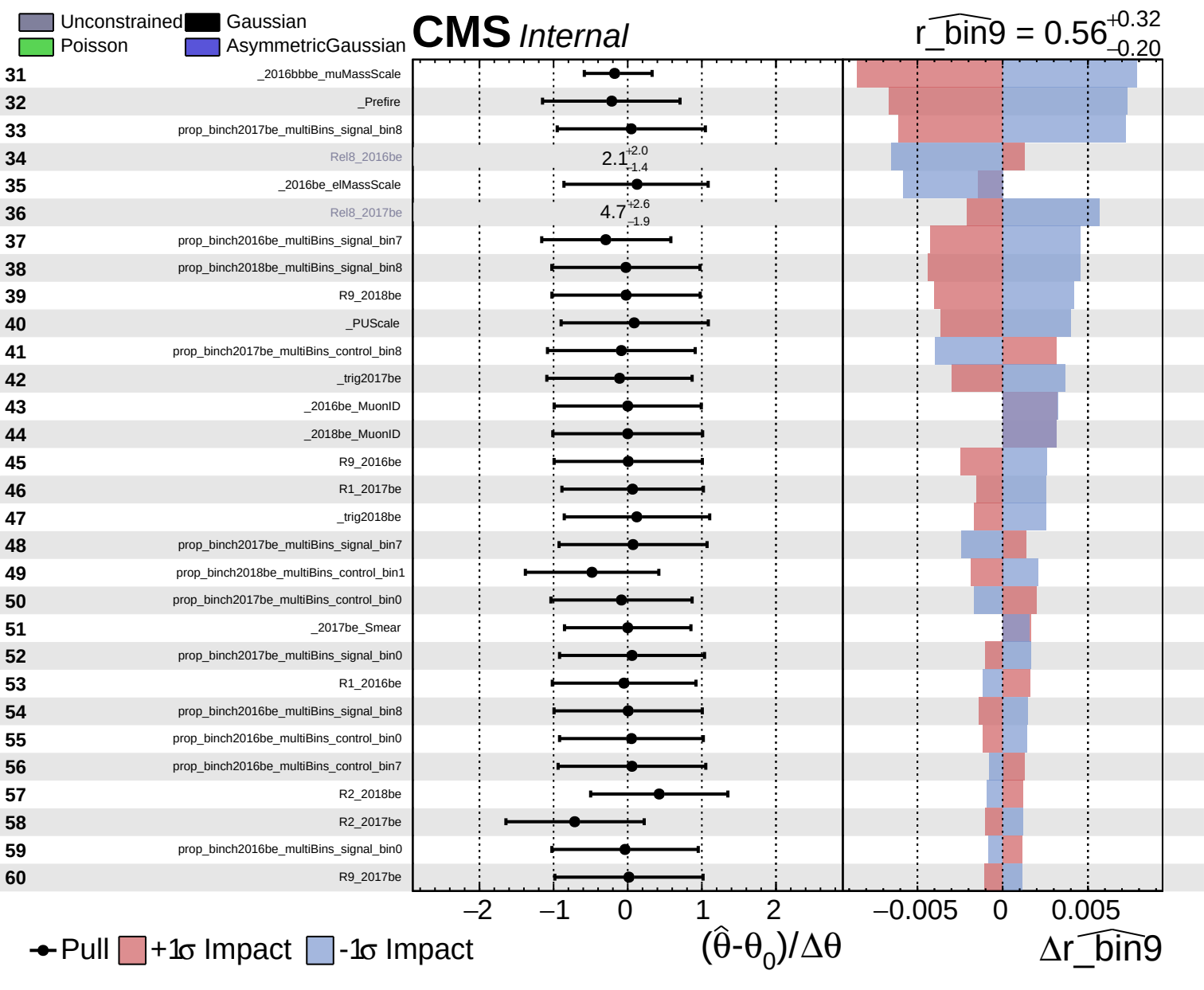
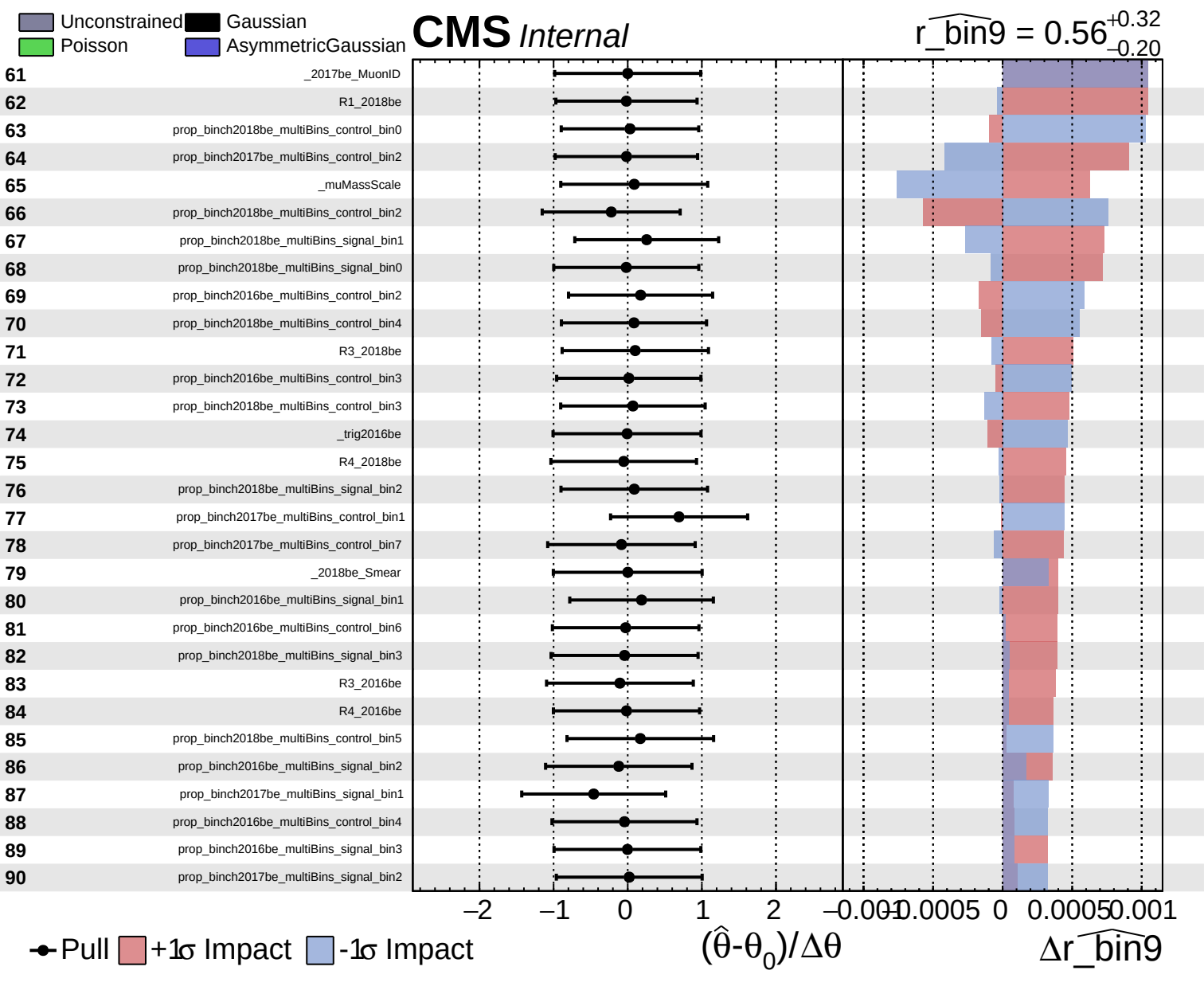
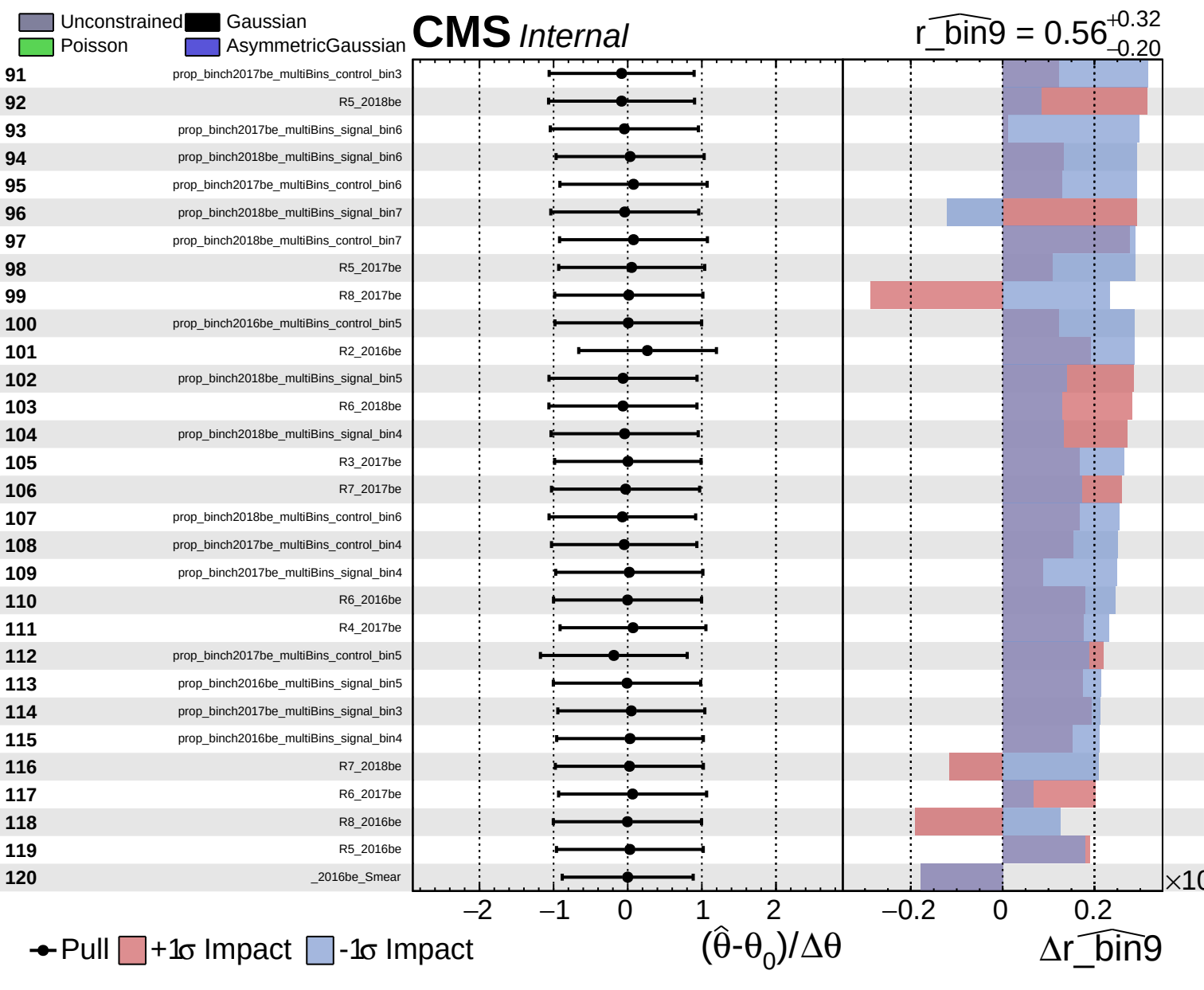
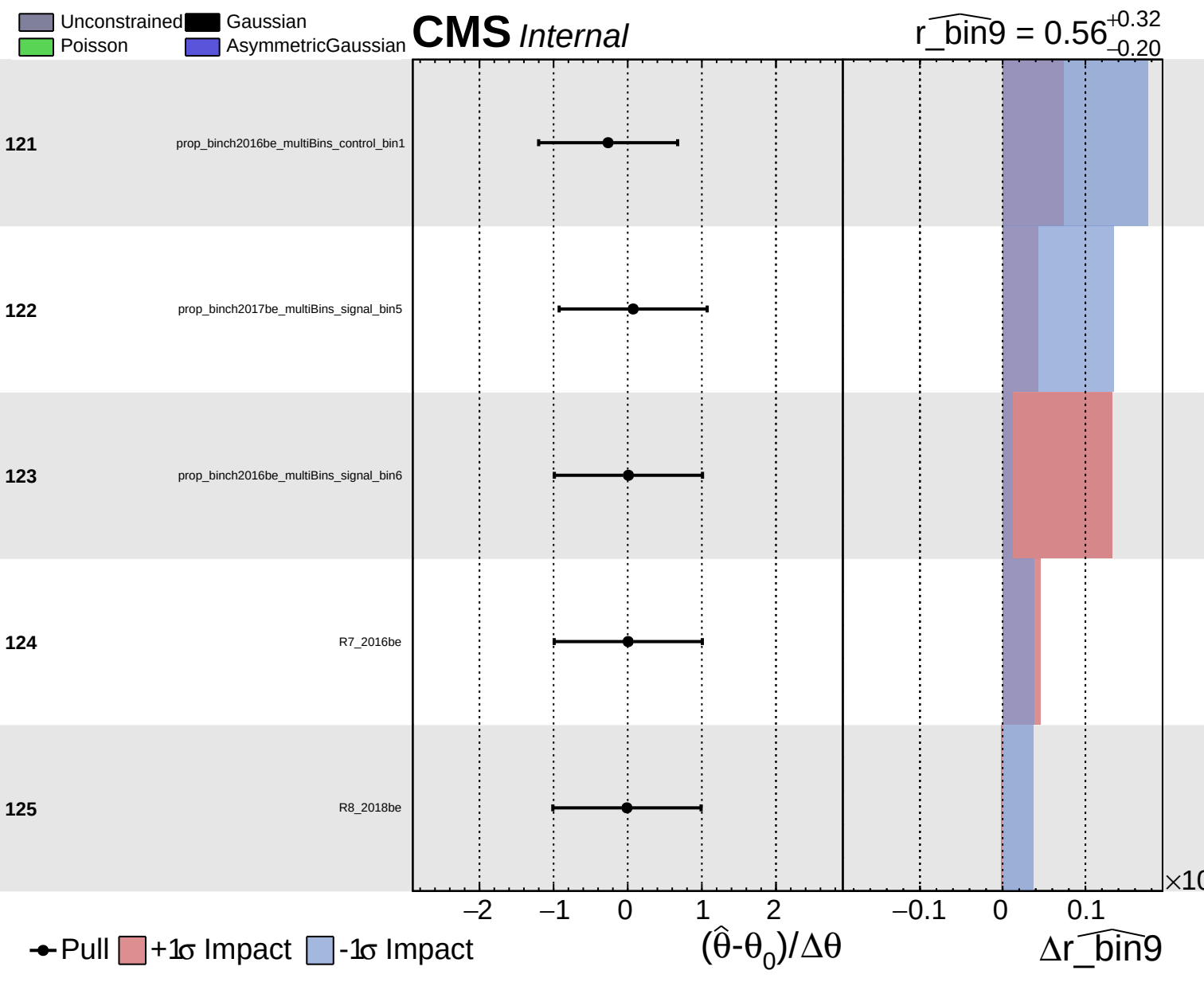

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r_bin9 = 0.56 +0.32 −0.20
1 Rel9_2018be 5.9 +2.8 −2.1
2 Rel9_2016be 3.5 +1.9 −1.4
3 Rel9_2017be 1.8 +1.3 −0.9
4 Rel1_2018be 18400 +1600 −1500
5 Rel1_2017be 12700 +1100 −1000
6 Rel2_2018be 4900 +400 −400
7 Rel2_2017be 3240 +290 −270
8 _eff
9 Rel3_2018be 1610 +150 −140
10 Rel4_2018be 1030 +90 −90
11 Rel3_2017be 1080 +100 −90
12 Rel4_2017be 660 +60 −60
13 Rel2_2016be 2920 +270 −250
14 Rel1_2016be 11200 +1000 −1000
15 Rel5_2018be 340 +36 −33
16 Rel3_2016be 940 +90 −90
17 Rel5_2017be 208 +24 −21
18 Rel4_2016be 560 +60 −50
19 prop_binch2018be_multiBins_control_bin8
20 Rel6_2018be 105 +15 −13
21 Rel5_2016be 142 +18 −16
22 Rel6_2017be 61 +9 −8
23 Rel6_2016be 67 +10 −9
24 Rel7_2018be 22 +5 −4
25 _2018be_elMassScale
26 Rel7_2017be 17 +4 −4
27 Rel7_2016be 10.8 +3.3 −2.7
28 prop_binch2016be_multiBins_control_bin8
29 _2017be_elMassScale
30 Rel8_2018be 8.0 +3.8 −3.0
−2 −1 0 1 2
−0.2 −0.1 0 0.1 0.2
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr_bin9


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r_bin9 = 0.56 +0.32 −0.20
31 _2016bbbe_muMassScale
32 _Prefire
33 prop_binch2017be_multiBins_signal_bin8
34 Rel8_2016be
35 _2016be_elMassScale
36 Rel8_2017be
37 prop_binch2016be_multiBins_signal_bin7
38 prop_binch2018be_multiBins_signal_bin8
39 R9_2018be
40 _PUScale
41 prop_binch2017be_multiBins_control_bin8
42 _trig2017be
43 _2016be_MuonID
44 _2018be_MuonID
45 R9_2016be
46 R1_2017be
47 _trig2018be
48 prop_binch2017be_multiBins_signal_bin7
49 prop_binch2018be_multiBins_control_bin1
50 prop_binch2017be_multiBins_control_bin0
51 _2017be_Smear
52 prop_binch2017be_multiBins_signal_bin0
53 R1_2016be
54 prop_binch2016be_multiBins_signal_bin8
55 prop_binch2016be_multiBins_control_bin0
56 prop_binch2016be_multiBins_control_bin7
57 R2_2018be
58 R2_2017be
59 prop_binch2016be_multiBins_signal_bin0
60 R9_2017be
2.1 +2.0 −1.4
4.7 +2.6 −1.9
−2 −1 0 1 2
−0.005 0 0.005
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr_bin9


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r_bin9 = 0.56 +0.32 −0.20
61 _2017be_MuonID
62 R1_2018be
63 prop_binch2018be_multiBins_control_bin0
64 prop_binch2017be_multiBins_control_bin2
65 _muMassScale
66 prop_binch2018be_multiBins_control_bin2
67 prop_binch2018be_multiBins_signal_bin1
68 prop_binch2018be_multiBins_signal_bin0
69 prop_binch2016be_multiBins_control_bin2
70 prop_binch2018be_multiBins_control_bin4
71 R3_2018be
72 prop_binch2016be_multiBins_control_bin3
73 prop_binch2018be_multiBins_control_bin3
74 _trig2016be
75 R4_2018be
76 prop_binch2018be_multiBins_signal_bin2
77 prop_binch2017be_multiBins_control_bin1
78 prop_binch2017be_multiBins_control_bin7
79 _2018be_Smear
80 prop_binch2016be_multiBins_signal_bin1
81 prop_binch2016be_multiBins_control_bin6
82 prop_binch2018be_multiBins_signal_bin3
83 R3_2016be
84 R4_2016be
85 prop_binch2018be_multiBins_control_bin5
86 prop_binch2016be_multiBins_signal_bin2
87 prop_binch2017be_multiBins_signal_bin1
88 prop_binch2016be_multiBins_control_bin4
89 prop_binch2016be_multiBins_signal_bin3
90 prop_binch2017be_multiBins_signal_bin2
−2 −1 0 1 2
−0.001 −0.0005 0 0.0005 0.001
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr_bin9


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r_bin9 = 0.56 +0.32 −0.20
91 prop_binch2017be_multiBins_control_bin3
92 R5_2018be
93 prop_binch2017be_multiBins_signal_bin6
94 prop_binch2018be_multiBins_signal_bin6
95 prop_binch2017be_multiBins_control_bin6
96 prop_binch2018be_multiBins_signal_bin7
97 prop_binch2018be_multiBins_control_bin7
98 R5_2017be
99 R8_2017be
100 prop_binch2016be_multiBins_control_bin5
101 R2_2016be
102 prop_binch2018be_multiBins_signal_bin5
103 R6_2018be
104 prop_binch2018be_multiBins_signal_bin4
105 R3_2017be
106 R7_2017be
107 prop_binch2018be_multiBins_control_bin6
108 prop_binch2017be_multiBins_control_bin4
109 prop_binch2017be_multiBins_signal_bin4
110 R6_2016be
111 R4_2017be
112 prop_binch2017be_multiBins_control_bin5
113 prop_binch2016be_multiBins_signal_bin5
114 prop_binch2017be_multiBins_signal_bin3
115 prop_binch2016be_multiBins_signal_bin4
116 R7_2018be
117 R6_2017be
118 R8_2016be
119 R5_2016be
120 _2016be_Smear
−2 −1 0 1 2
−0.2 0 0.2
×10
Pull +1σ Impact -1σ Impact
(θ̂-θ0)/Δθ
Δr_bin9


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r_bin9 = 0.56 +0.32 −0.20
121
prop_binch2016be_multiBins_control_bin1
122
prop_binch2017be_multiBins_signal_bin5
123
prop_binch2016be_multiBins_signal_bin6
124
R7_2016be
125
R8_2018be
−2
−1
0
1
2
−0.1
0
0.1
×10
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr_bin9