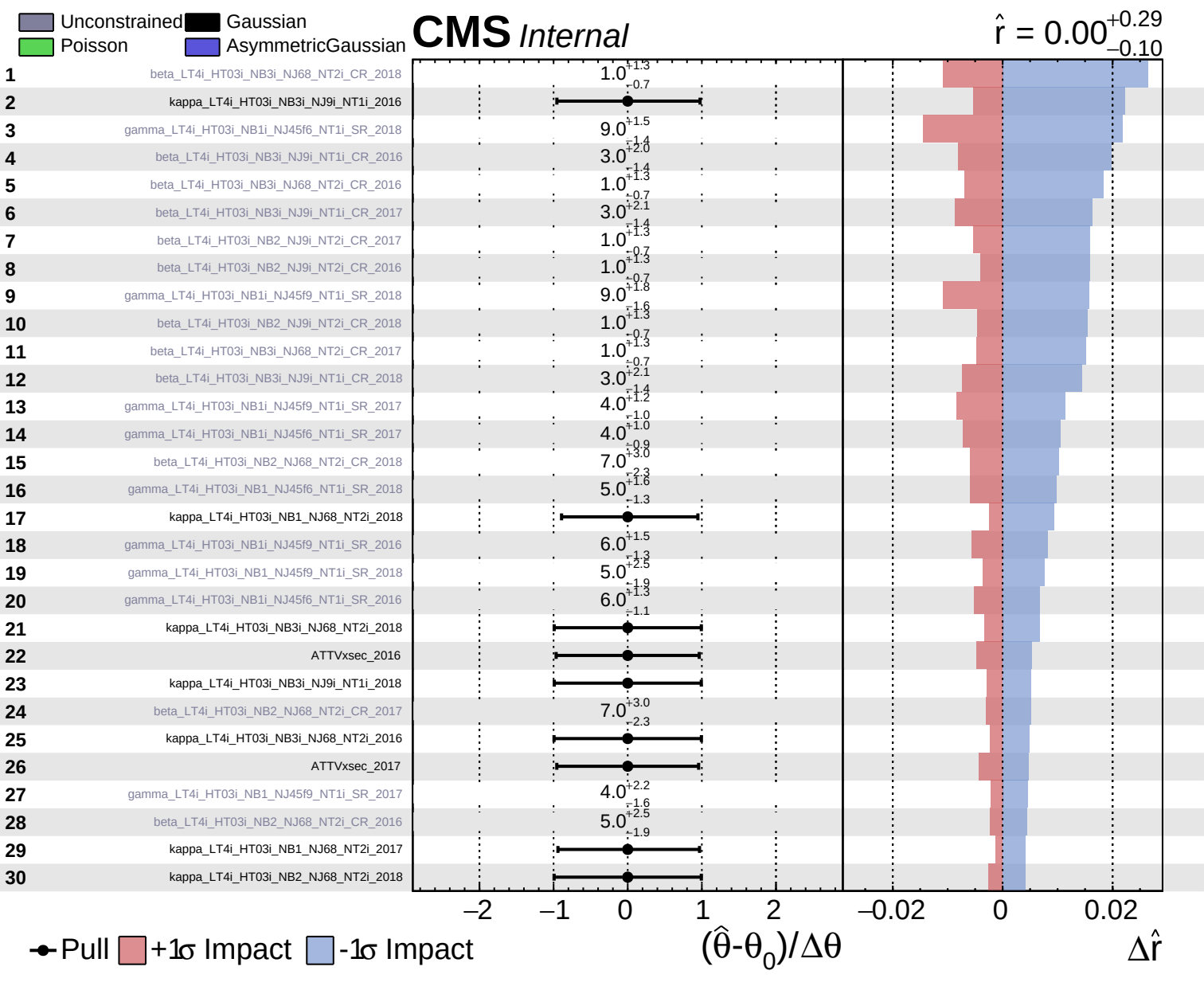
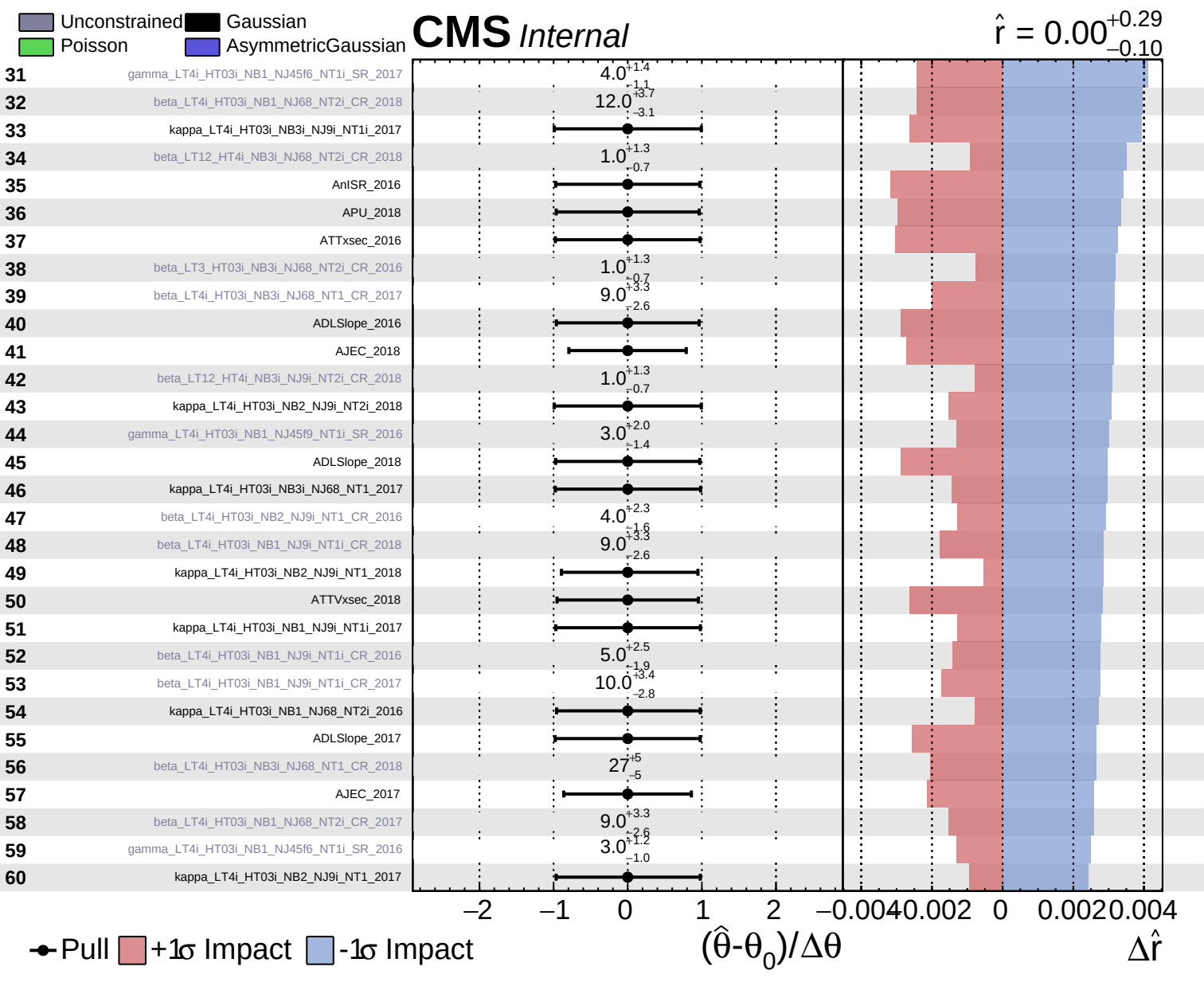
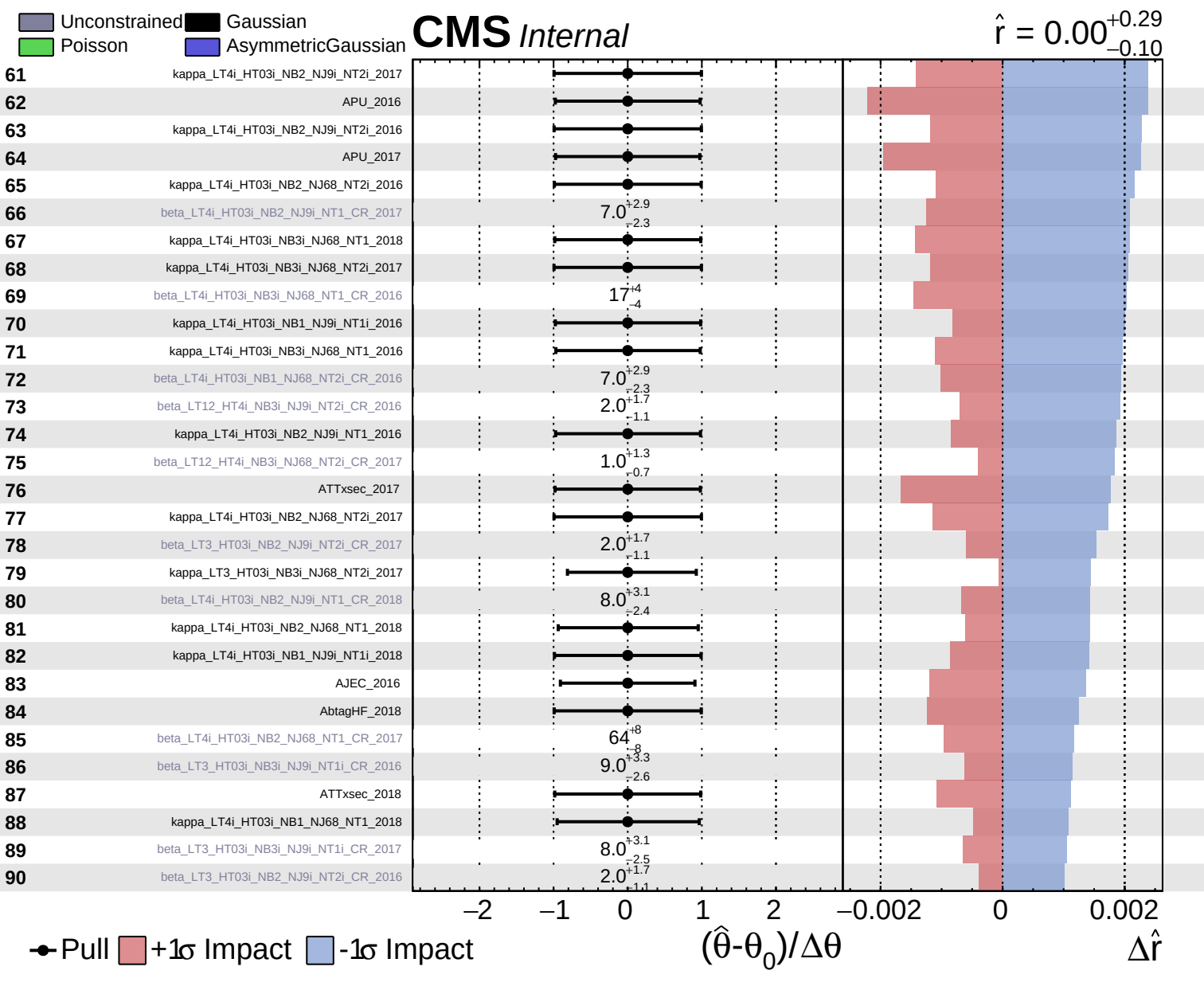
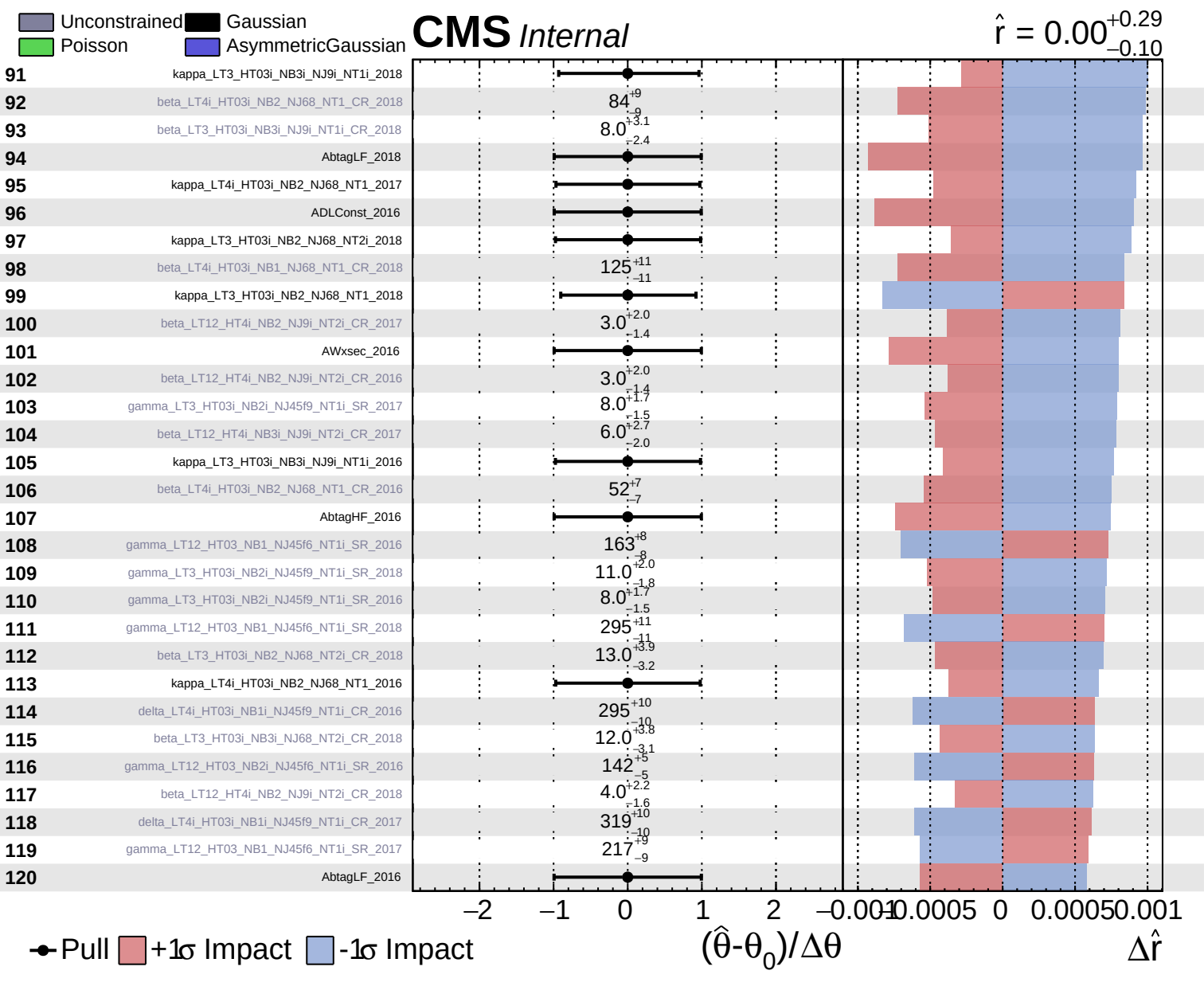
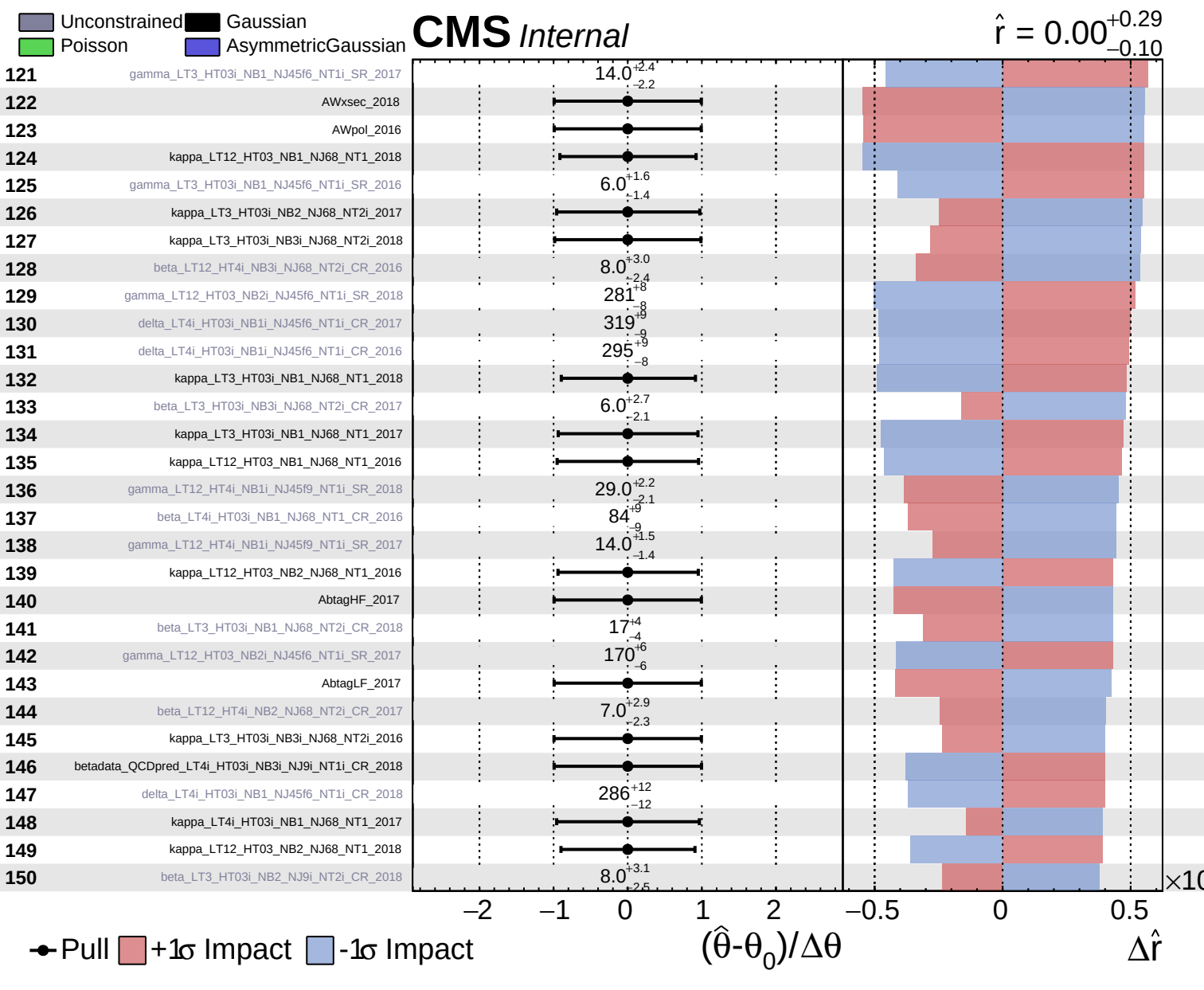
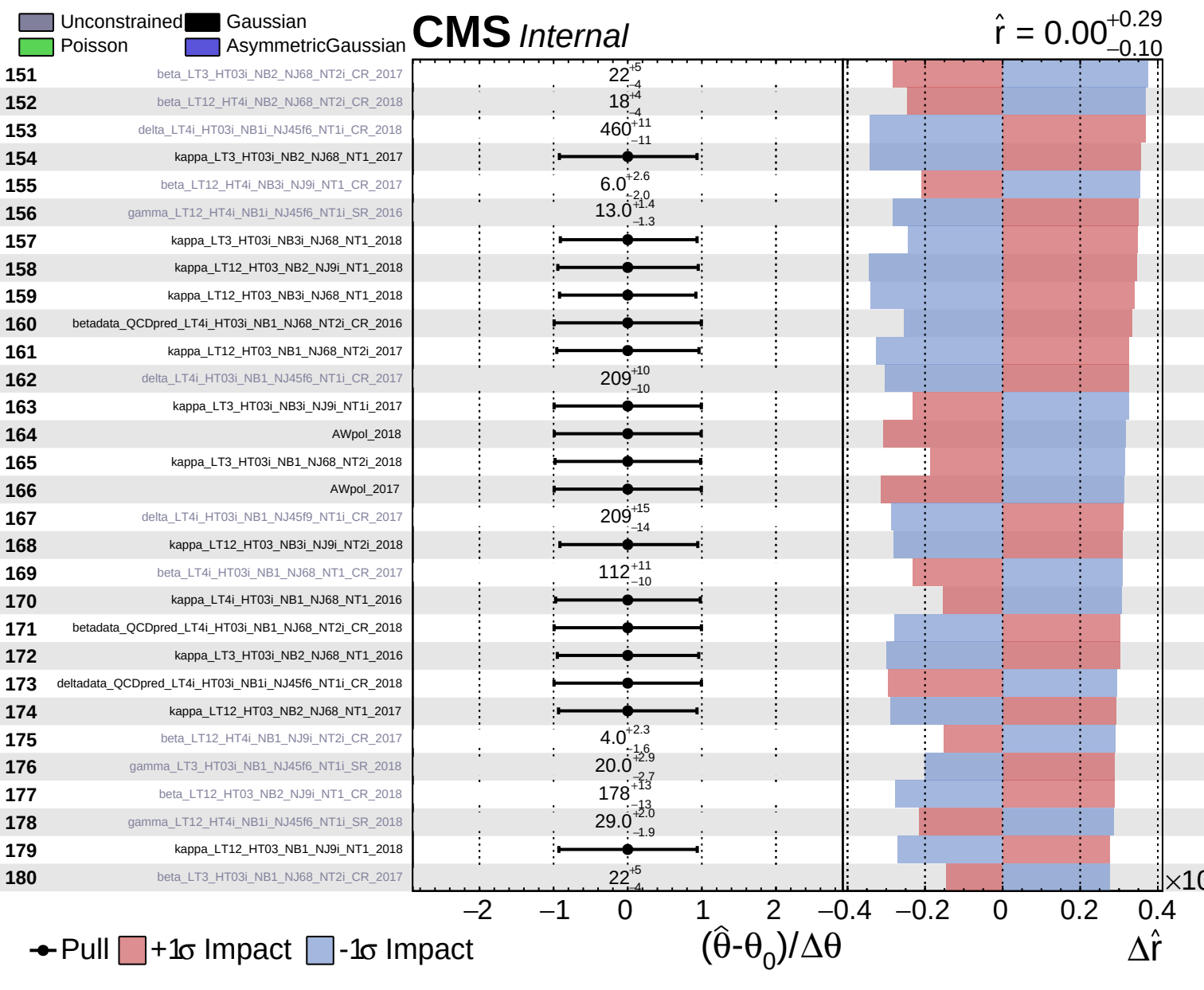

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
1 beta_LT4i_HT03i_NB3i_NJ68_NT2i_CR_2018 1.0 +1.3 −0.7
2 kappa_LT4i_HT03i_NB3i_NJ9i_NT1i_2016
3 gamma_LT4i_HT03i_NB1i_NJ45f6_NT1i_SR_2018 9.0 +1.5 −1.4
4 beta_LT4i_HT03i_NB3i_NJ9i_NT1i_CR_2016 3.0 +2.0 −1.4
5 beta_LT4i_HT03i_NB3i_NJ68_NT2i_CR_2016 1.0 +1.3 −0.7
6 beta_LT4i_HT03i_NB3i_NJ9i_NT1i_CR_2017 3.0 +2.1 −1.4
7 beta_LT4i_HT03i_NB2_NJ9i_NT2i_CR_2017 1.0 +1.3 −0.7
8 beta_LT4i_HT03i_NB2_NJ9i_NT2i_CR_2016 1.0 +1.3 −0.7
9 gamma_LT4i_HT03i_NB1i_NJ45f9_NT1i_SR_2018 9.0 +1.8 −1.6
10 beta_LT4i_HT03i_NB2_NJ9i_NT2i_CR_2018 1.0 +1.3 −0.7
11 beta_LT4i_HT03i_NB3i_NJ68_NT2i_CR_2017 1.0 +1.3 −0.7
12 beta_LT4i_HT03i_NB3i_NJ9i_NT1i_CR_2018 3.0 +2.1 −1.4
13 gamma_LT4i_HT03i_NB1i_NJ45f9_NT1i_SR_2017 4.0 +1.2 −1.0
14 gamma_LT4i_HT03i_NB1i_NJ45f6_NT1i_SR_2017 4.0 +1.0 −0.9
15 beta_LT4i_HT03i_NB2_NJ68_NT2i_CR_2018 7.0 +3.0 −2.3
16 gamma_LT4i_HT03i_NB1_NJ45f6_NT1i_SR_2018 5.0 +1.6 −1.3
17 kappa_LT4i_HT03i_NB1_NJ68_NT2i_2018
18 gamma_LT4i_HT03i_NB1i_NJ45f9_NT1i_SR_2016 6.0 +1.5 −1.3
19 gamma_LT4i_HT03i_NB1_NJ45f9_NT1i_SR_2018 5.0 +2.5 −1.9
20 gamma_LT4i_HT03i_NB1i_NJ45f6_NT1i_SR_2016 6.0 +1.3 −1.1
21 kappa_LT4i_HT03i_NB3i_NJ68_NT2i_2018
22 ATTVxsec_2016
23 kappa_LT4i_HT03i_NB3i_NJ9i_NT1i_2018
24 beta_LT4i_HT03i_NB2_NJ68_NT2i_CR_2017 7.0 +3.0 −2.3
25 kappa_LT4i_HT03i_NB3i_NJ68_NT2i_2016
26 ATTVxsec_2017
27 gamma_LT4i_HT03i_NB1_NJ45f9_NT1i_SR_2017 4.0 +2.2 −1.6
28 beta_LT4i_HT03i_NB2_NJ68_NT2i_CR_2016 5.0 +2.5 −1.9
29 kappa_LT4i_HT03i_NB1_NJ68_NT2i_2017
30 kappa_LT4i_HT03i_NB2_NJ68_NT2i_2018
−2 −1 0 1 2
−0.02 0 0.02
Pull +1σ Impact -1σ Impact
(θ̂-θ0)/Δθ
Δr̂

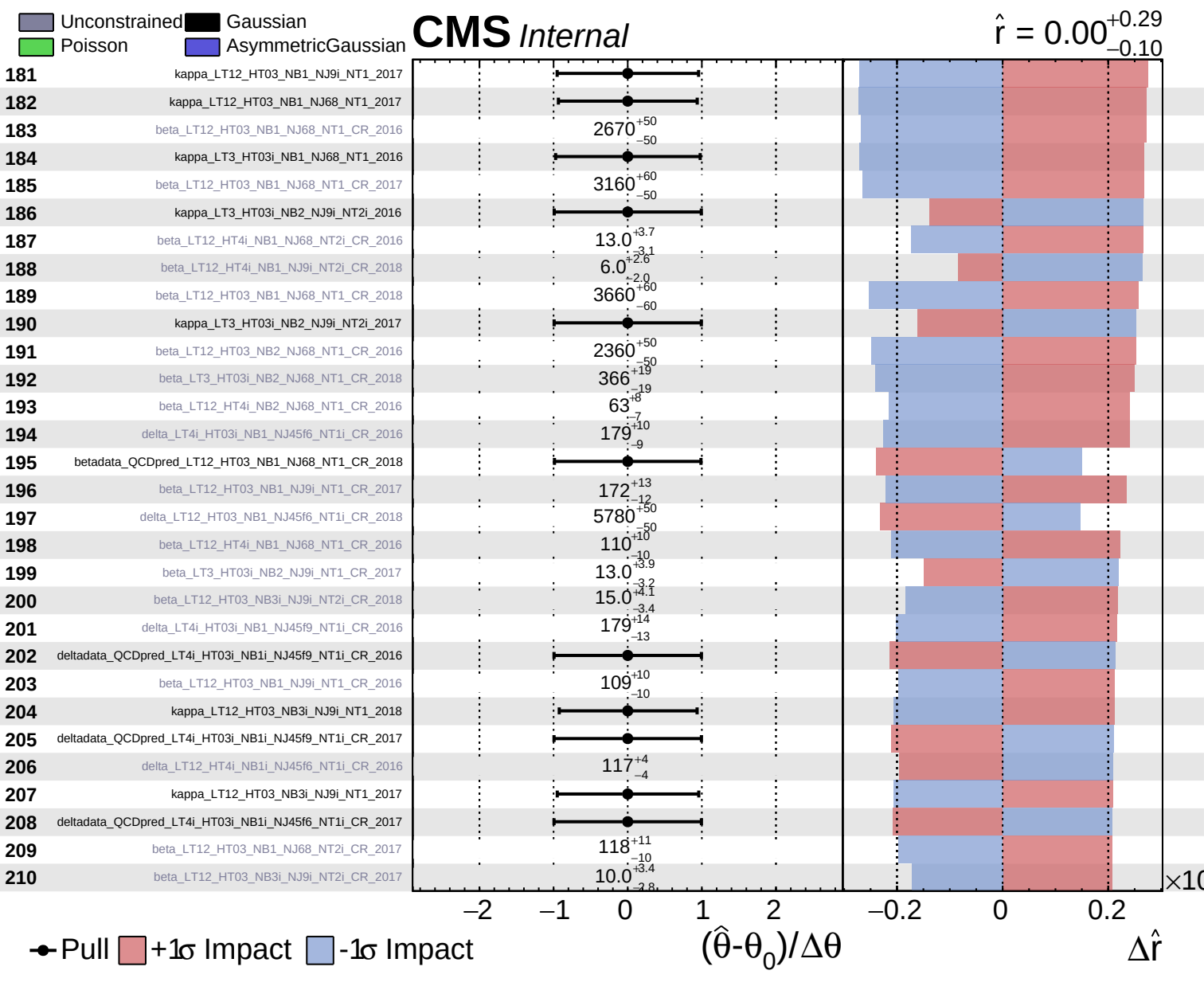

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
31 gamma_LT4i_HT03i_NB1_NJ45f6_NT1i_SR_2017
32 beta_LT4i_HT03i_NB1_NJ68_NT2i_CR_2018
33 kappa_LT4i_HT03i_NB3i_NJ9i_NT1i_2017
34 beta_LT12_HT4i_NB3i_NJ68_NT2i_CR_2018
35 AnISR_2016
36 APU_2018
37 ATTxsec_2016
38 beta_LT3_HT03i_NB3i_NJ68_NT2i_CR_2016
39 beta_LT4i_HT03i_NB3i_NJ68_NT1_CR_2017
40 ADLSlope_2016
41 AJEC_2018
42 beta_LT12_HT4i_NB3i_NJ9i_NT2i_CR_2018
43 kappa_LT4i_HT03i_NB2_NJ9i_NT2i_2018
44 gamma_LT4i_HT03i_NB1_NJ45f9_NT1i_SR_2016
45 ADLSlope_2018
46 kappa_LT4i_HT03i_NB3i_NJ68_NT1_2017
47 beta_LT4i_HT03i_NB2_NJ9i_NT1_CR_2016
48 beta_LT4i_HT03i_NB1_NJ9i_NT1i_CR_2018
49 kappa_LT4i_HT03i_NB2_NJ9i_NT1_2018
50 ATTVxsec_2018
51 kappa_LT4i_HT03i_NB1_NJ9i_NT1i_2017
52 beta_LT4i_HT03i_NB1_NJ9i_NT1i_CR_2016
53 beta_LT4i_HT03i_NB1_NJ9i_NT1i_CR_2017
54 kappa_LT4i_HT03i_NB1_NJ68_NT2i_2016
55 ADLSlope_2017
56 beta_LT4i_HT03i_NB3i_NJ68_NT1_CR_2018
57 AJEC_2017
58 beta_LT4i_HT03i_NB1_NJ68_NT2i_CR_2017
59 gamma_LT4i_HT03i_NB1_NJ45f6_NT1i_SR_2016
60 kappa_LT4i_HT03i_NB2_NJ9i_NT1_2017
4.0 +1.4 −1.1
12.0 +3.7 −3.1
1.0 +1.3 −0.7
1.0 +1.3 −0.7
9.0 +3.3 −2.6
1.0 +1.3 −0.7
3.0 +2.0 −1.4
4.0 +2.3 −1.6
9.0 +3.3 −2.6
5.0 +2.5 −1.9
10.0 +3.4 −2.8
27 +5 −5
9.0 +3.3 −2.6
3.0 +1.2 −1.0
−2
−1
0
1
2
−0.004
−0.002
0
0.002
0.004
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂

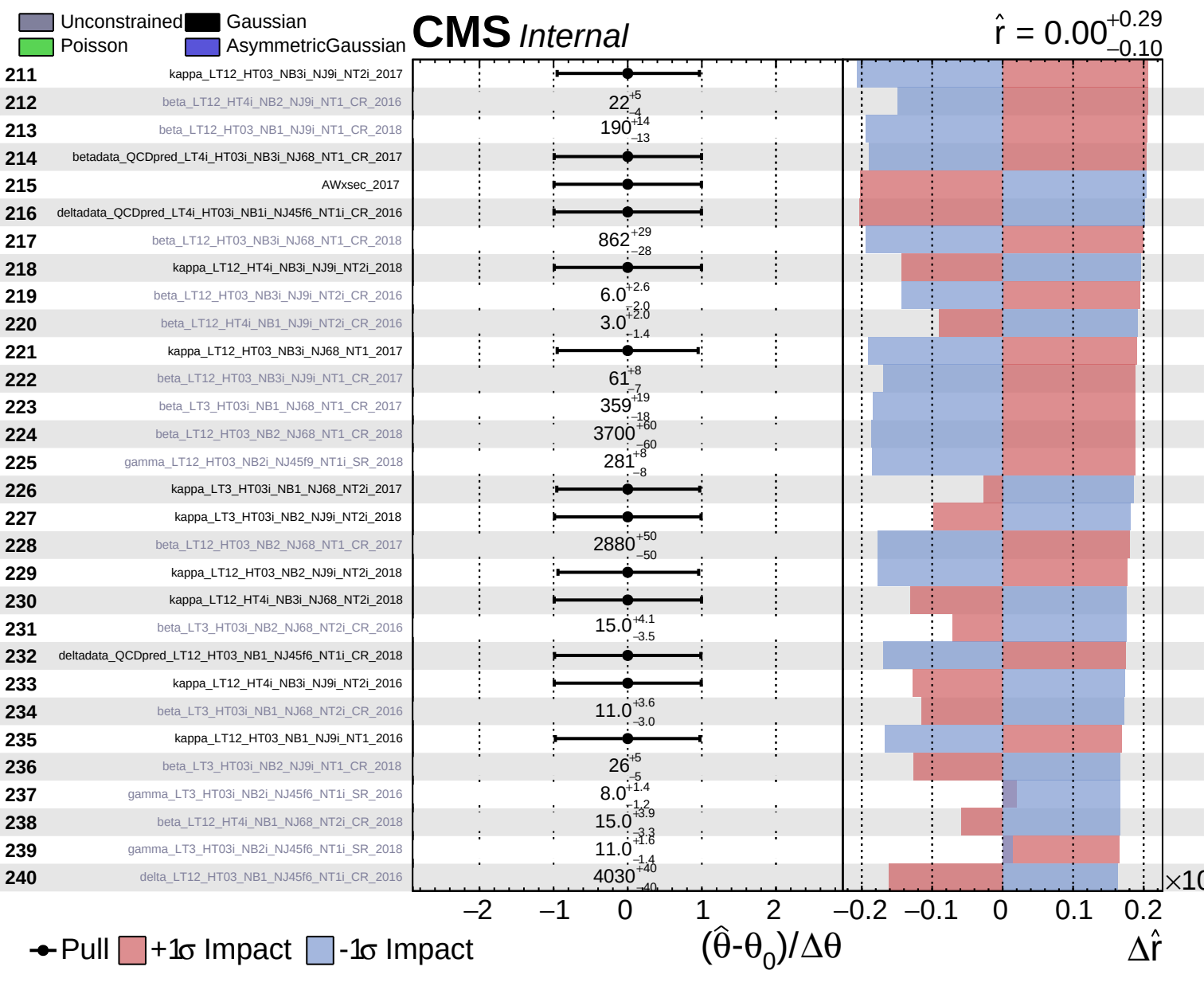

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
61 kappa_LT4i_HT03i_NB2_NJ9i_NT2i_2017
62 APU_2016
63 kappa_LT4i_HT03i_NB2_NJ9i_NT2i_2016
64 APU_2017
65 kappa_LT4i_HT03i_NB2_NJ68_NT2i_2016
66 beta_LT4i_HT03i_NB2_NJ9i_NT1_CR_2017
7.0 +2.9 −2.3
67 kappa_LT4i_HT03i_NB3i_NJ68_NT1_2018
68 kappa_LT4i_HT03i_NB3i_NJ68_NT2i_2017
69 beta_LT4i_HT03i_NB3i_NJ68_NT1_CR_2016
17 +4 −4
70 kappa_LT4i_HT03i_NB1_NJ9i_NT1i_2016
71 kappa_LT4i_HT03i_NB3i_NJ68_NT1_2016
72 beta_LT4i_HT03i_NB1_NJ68_NT2i_CR_2016
7.0 +2.9 −2.3
73 beta_LT12_HT4i_NB3i_NJ9i_NT2i_CR_2016
2.0 +1.7 −1.1
74 kappa_LT4i_HT03i_NB2_NJ9i_NT1_2016
75 beta_LT12_HT4i_NB3i_NJ68_NT2i_CR_2017
1.0 +1.3 −0.7
76 ATTxsec_2017
77 kappa_LT4i_HT03i_NB2_NJ68_NT2i_2017
78 beta_LT3_HT03i_NB2_NJ9i_NT2i_CR_2017
2.0 +1.7 −1.1
79 kappa_LT3_HT03i_NB3i_NJ68_NT2i_2017
80 beta_LT4i_HT03i_NB2_NJ9i_NT1_CR_2018
8.0 +3.1 −2.4
81 kappa_LT4i_HT03i_NB2_NJ68_NT1_2018
82 kappa_LT4i_HT03i_NB1_NJ9i_NT1i_2018
83 AJEC_2016
84 AbtagHF_2018
85 beta_LT4i_HT03i_NB2_NJ68_NT1_CR_2017
64 +8 −8
86 beta_LT3_HT03i_NB3i_NJ9i_NT1i_CR_2016
9.0 +3.3 −2.6
87 ATTxsec_2018
88 kappa_LT4i_HT03i_NB1_NJ68_NT1_2018
89 beta_LT3_HT03i_NB3i_NJ9i_NT1i_CR_2017
8.0 +3.1 −2.5
90 beta_LT3_HT03i_NB2_NJ9i_NT2i_CR_2016
2.0 +1.7 −1.1
−2 −1 0 1 2
−0.002 0 0.002
Pull +1σ Impact -1σ Impact
(θ̂-θ0)/Δθ
Δr̂

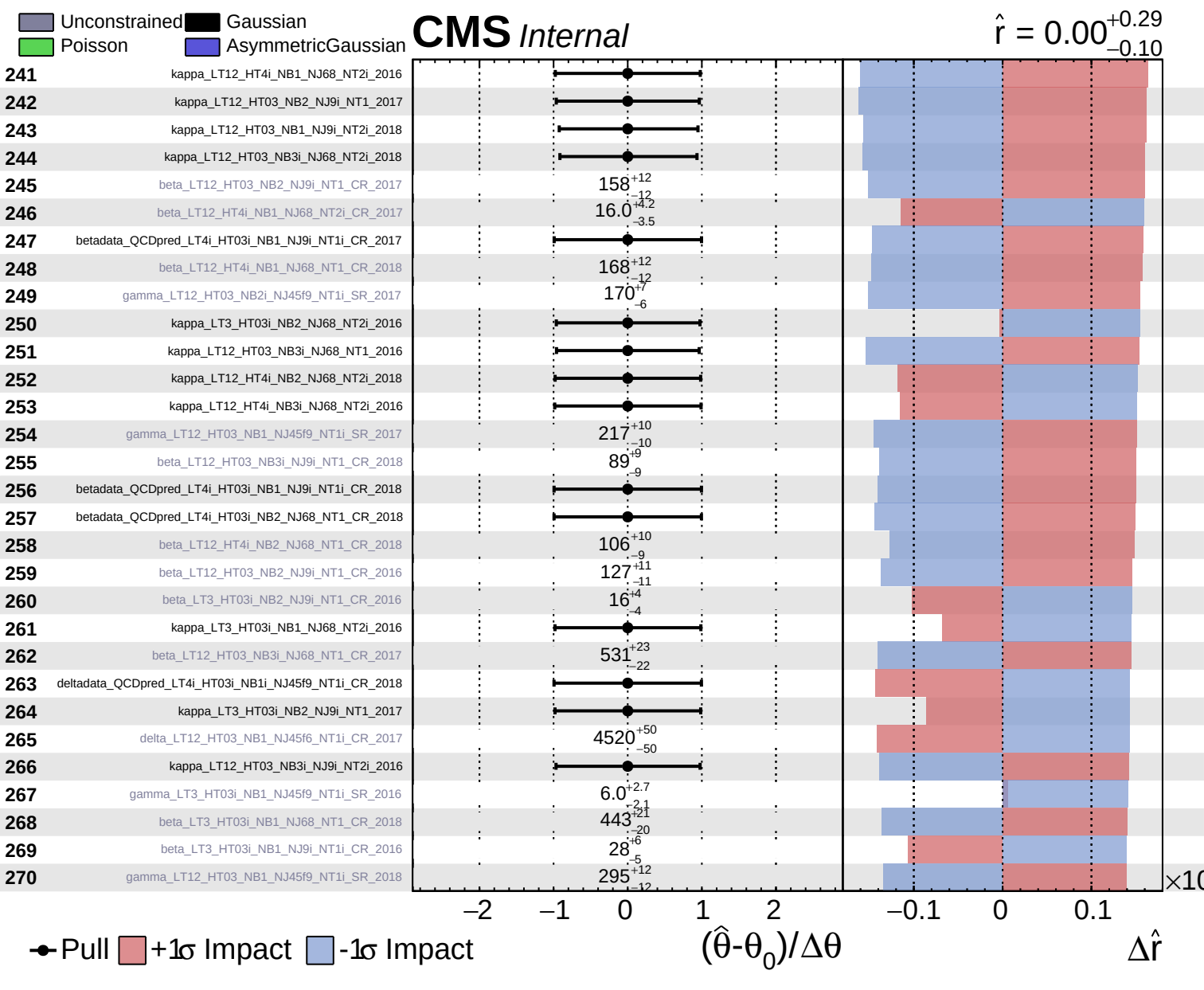

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
91 kappa_LT3_HT03i_NB3i_NJ9i_NT1i_2018
92 beta_LT4i_HT03i_NB2_NJ68_NT1_CR_2018
93 beta_LT3_HT03i_NB3i_NJ9i_NT1i_CR_2018
94 AbtagLF_2018
95 kappa_LT4i_HT03i_NB2_NJ68_NT1_2017
96 ADLConst_2016
97 kappa_LT3_HT03i_NB2_NJ68_NT2i_2018
98 beta_LT4i_HT03i_NB1_NJ68_NT1_CR_2018
99 kappa_LT3_HT03i_NB2_NJ68_NT1_2018
100 beta_LT12_HT4i_NB2_NJ9i_NT2i_CR_2017
101 AWxsec_2016
102 beta_LT12_HT4i_NB2_NJ9i_NT2i_CR_2016
103 gamma_LT3_HT03i_NB2i_NJ45f9_NT1i_SR_2017
104 beta_LT12_HT4i_NB3i_NJ9i_NT2i_CR_2017
105 kappa_LT3_HT03i_NB3i_NJ9i_NT1i_2016
106 beta_LT4i_HT03i_NB2_NJ68_NT1_CR_2016
107 AbtagHF_2016
108 gamma_LT12_HT03_NB1_NJ45f6_NT1i_SR_2016
109 gamma_LT3_HT03i_NB2i_NJ45f9_NT1i_SR_2018
110 gamma_LT3_HT03i_NB2i_NJ45f9_NT1i_SR_2016
111 gamma_LT12_HT03_NB1_NJ45f6_NT1i_SR_2018
112 beta_LT3_HT03i_NB2_NJ68_NT2i_CR_2018
113 kappa_LT4i_HT03i_NB2_NJ68_NT1_2016
114 delta_LT4i_HT03i_NB1i_NJ45f9_NT1i_CR_2016
115 beta_LT3_HT03i_NB3i_NJ68_NT2i_CR_2018
116 gamma_LT12_HT03_NB2i_NJ45f6_NT1i_SR_2016
117 beta_LT12_HT4i_NB2_NJ9i_NT2i_CR_2018
118 delta_LT4i_HT03i_NB1i_NJ45f9_NT1i_CR_2017
119 gamma_LT12_HT03_NB1_NJ45f6_NT1i_SR_2017
120 AbtagLF_2016
84 +9 −9
8.0 +3.1 −2.4
125 +11 −11
3.0 +2.0 −1.4
3.0 +2.0 −1.4
8.0 +1.7 −1.5
6.0 +2.7 −2.0
52 +7 −7
163 +8 −8
11.0 +2.0 −1.8
8.0 +1.7 −1.5
295 +11 −11
13.0 +3.9 −3.2
295 +10 −10
12.0 +3.8 −3.1
142 +5 −5
4.0 +2.2 −1.6
319 +10 −10
217 +9 −9
−2 −1 0 1 2
−0.001 −0.0005 0 0.0005 0.001
Pull +1σ Impact -1σ Impact
(θ̂-θ0)/Δθ
Δr̂

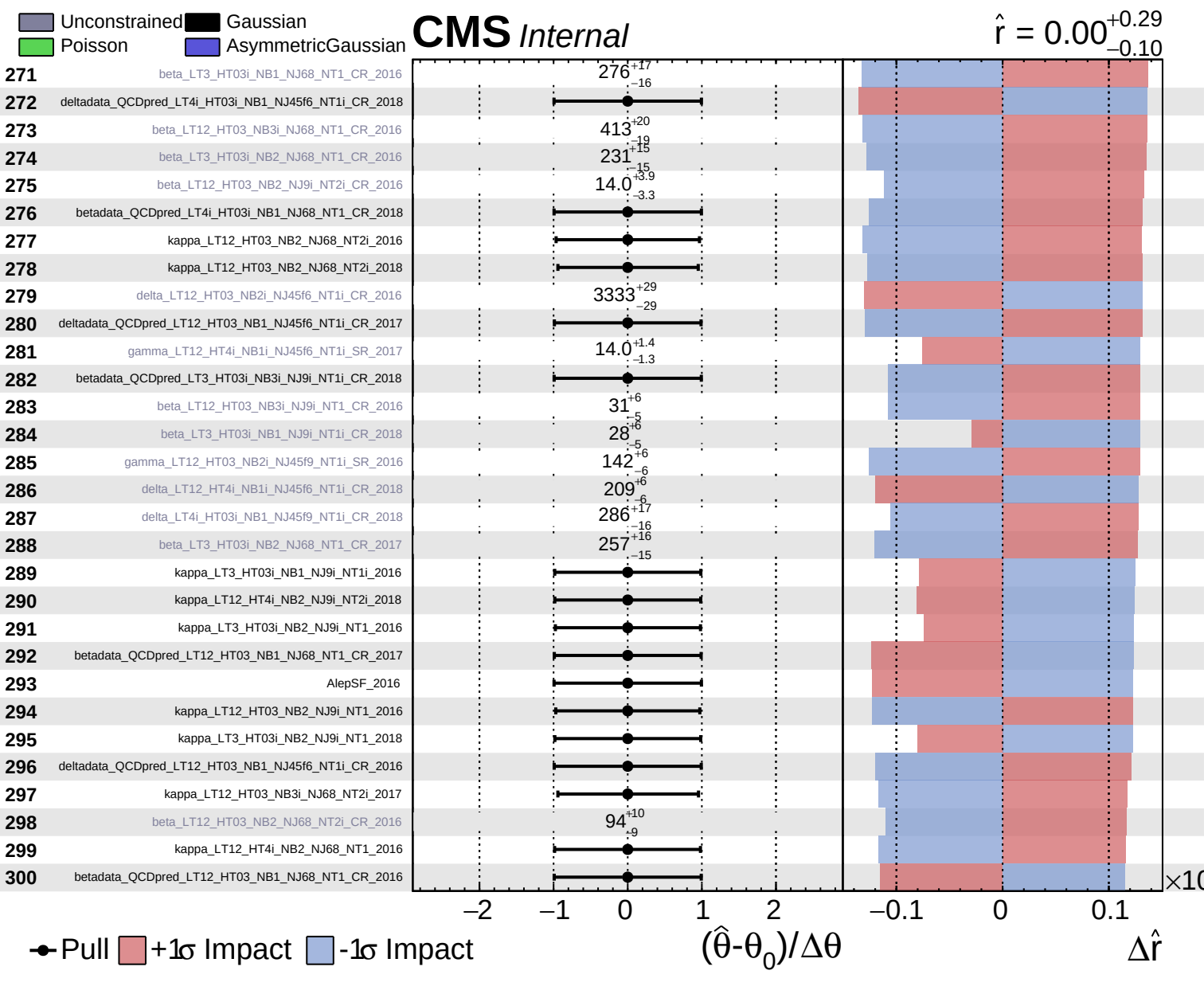

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
121 gamma_LT3_HT03i_NB1_NJ45f6_NT1i_SR_2017
122 AWxsec_2018
123 AWpol_2016
124 kappa_LT12_HT03_NB1_NJ68_NT1_2018
125 gamma_LT3_HT03i_NB1_NJ45f6_NT1i_SR_2016
126 kappa_LT3_HT03i_NB2_NJ68_NT2i_2017
127 kappa_LT3_HT03i_NB3i_NJ68_NT2i_2018
128 beta_LT12_HT4i_NB3i_NJ68_NT2i_CR_2016
129 gamma_LT12_HT03_NB2i_NJ45f6_NT1i_SR_2018
130 delta_LT4i_HT03i_NB1i_NJ45f6_NT1i_CR_2017
131 delta_LT4i_HT03i_NB1i_NJ45f6_NT1i_CR_2016
132 kappa_LT3_HT03i_NB1_NJ68_NT1_2018
133 beta_LT3_HT03i_NB3i_NJ68_NT2i_CR_2017
134 kappa_LT3_HT03i_NB1_NJ68_NT1_2017
135 kappa_LT12_HT03_NB1_NJ68_NT1_2016
136 gamma_LT12_HT4i_NB1i_NJ45f9_NT1i_SR_2018
137 beta_LT4i_HT03i_NB1_NJ68_NT1_CR_2016
138 gamma_LT12_HT4i_NB1i_NJ45f9_NT1i_SR_2017
139 kappa_LT12_HT03_NB2_NJ68_NT1_2016
140 AbtagHF_2017
141 beta_LT3_HT03i_NB1_NJ68_NT2i_CR_2018
142 gamma_LT12_HT03_NB2i_NJ45f6_NT1i_SR_2017
143 AbtagLF_2017
144 beta_LT12_HT4i_NB2_NJ68_NT2i_CR_2017
145 kappa_LT3_HT03i_NB3i_NJ68_NT2i_2016
146 betadata_QCDpred_LT4i_HT03i_NB3i_NJ9i_NT1i_CR_2018
147 delta_LT4i_HT03i_NB1_NJ45f6_NT1i_CR_2018
148 kappa_LT4i_HT03i_NB1_NJ68_NT1_2017
149 kappa_LT12_HT03_NB2_NJ68_NT1_2018
150 beta_LT3_HT03i_NB2_NJ9i_NT2i_CR_2018
14.0 +2.4 −2.2
6.0 +1.6 −1.4
8.0 +3.0 −2.4
281 +8 −8
319 +9 −9
295 +9 −8
6.0 +2.7 −2.1
29.0 +2.2 −2.1
84 +9 −9
14.0 +1.5 −1.4
17 +4 −4
170 +6 −6
7.0 +2.9 −2.3
286 +12 −12
8.0 +3.1 −2.5
×10
−2 −1 0 1 2
−0.5 0 0.5
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂

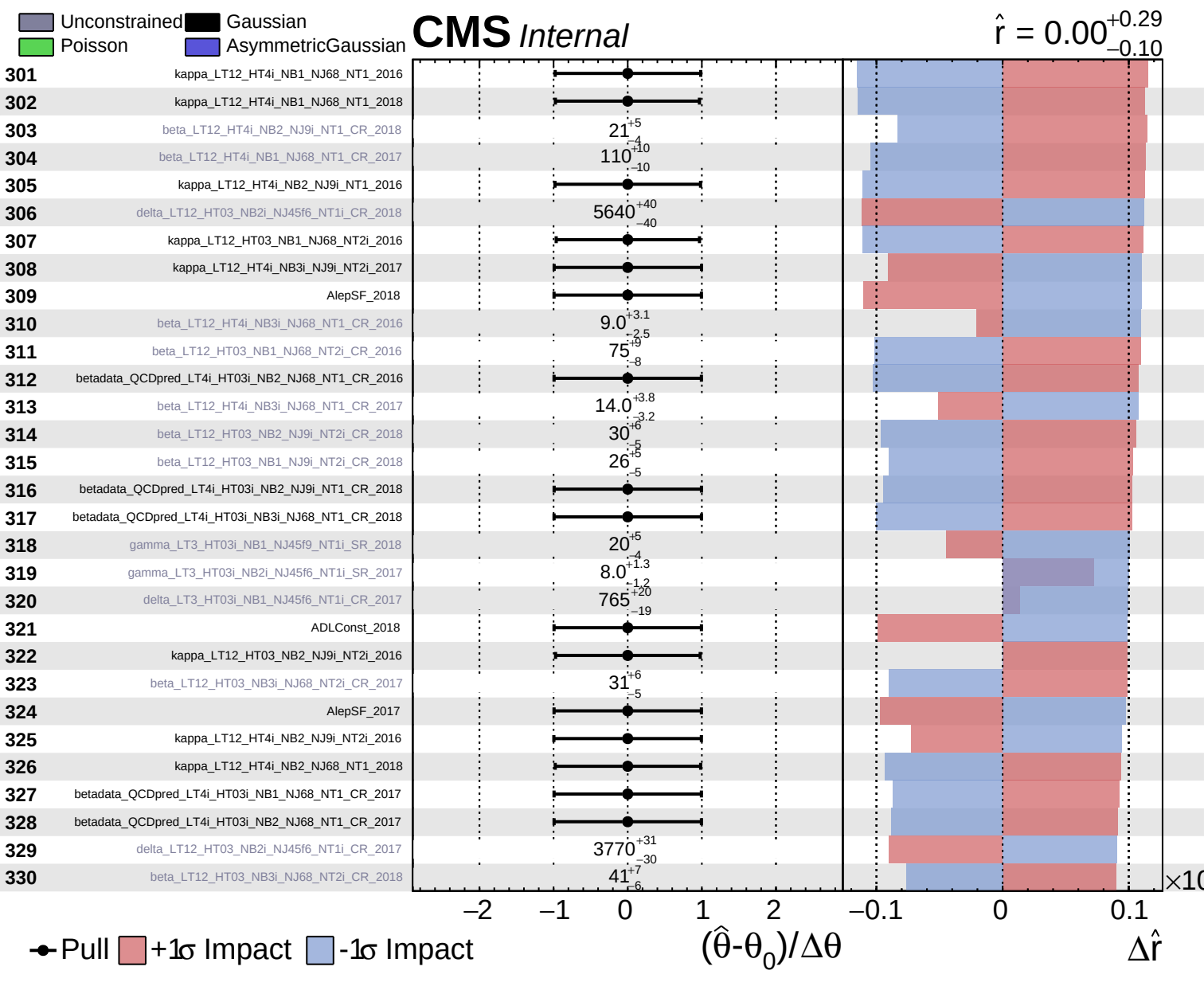

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
151 beta_LT3_HT03i_NB2_NJ68_NT2i_CR_2017
152 beta_LT12_HT4i_NB2_NJ68_NT2i_CR_2018
153 delta_LT4i_HT03i_NB1i_NJ45f6_NT1i_CR_2018
154 kappa_LT3_HT03i_NB2_NJ68_NT1_2017
155 beta_LT12_HT4i_NB3i_NJ9i_NT1_CR_2017
156 gamma_LT12_HT4i_NB1i_NJ45f6_NT1i_SR_2016
157 kappa_LT3_HT03i_NB3i_NJ68_NT1_2018
158 kappa_LT12_HT03_NB2_NJ9i_NT1_2018
159 kappa_LT12_HT03_NB3i_NJ68_NT1_2018
160 betadata_QCDpred_LT4i_HT03i_NB1_NJ68_NT2i_CR_2016
161 kappa_LT12_HT03_NB1_NJ68_NT2i_2017
162 delta_LT4i_HT03i_NB1_NJ45f6_NT1i_CR_2017
163 kappa_LT3_HT03i_NB3i_NJ9i_NT1i_2017
164 AWpol_2018
165 kappa_LT3_HT03i_NB1_NJ68_NT2i_2018
166 AWpol_2017
167 delta_LT4i_HT03i_NB1_NJ45f9_NT1i_CR_2017
168 kappa_LT12_HT03_NB3i_NJ9i_NT2i_2018
169 beta_LT4i_HT03i_NB1_NJ68_NT1_CR_2017
170 kappa_LT4i_HT03i_NB1_NJ68_NT1_2016
171 betadata_QCDpred_LT4i_HT03i_NB1_NJ68_NT2i_CR_2018
172 kappa_LT3_HT03i_NB2_NJ68_NT1_2016
173 deltadata_QCDpred_LT4i_HT03i_NB1i_NJ45f6_NT1i_CR_2018
174 kappa_LT12_HT03_NB2_NJ68_NT1_2017
175 beta_LT12_HT4i_NB1_NJ9i_NT2i_CR_2017
176 gamma_LT3_HT03i_NB1_NJ45f6_NT1i_SR_2018
177 beta_LT12_HT03_NB2_NJ9i_NT1_CR_2018
178 gamma_LT12_HT4i_NB1i_NJ45f6_NT1i_SR_2018
179 kappa_LT12_HT03_NB1_NJ9i_NT1_2018
180 beta_LT3_HT03i_NB1_NJ68_NT2i_CR_2017
22 +5 −4
18 +4 −4
460 +11 −11
6.0 +2.6 −2.0
13.0 +1.4 −1.3
209 +10 −10
209 +15 −14
112 +11 −10
4.0 +2.3 −1.6
20.0 +2.9 −2.7
178 +13 −13
29.0 +2.0 −1.9
22 +5 −4
×10
−2
−1
0
1
2
−0.4
−0.2
0
0.2
0.4
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂

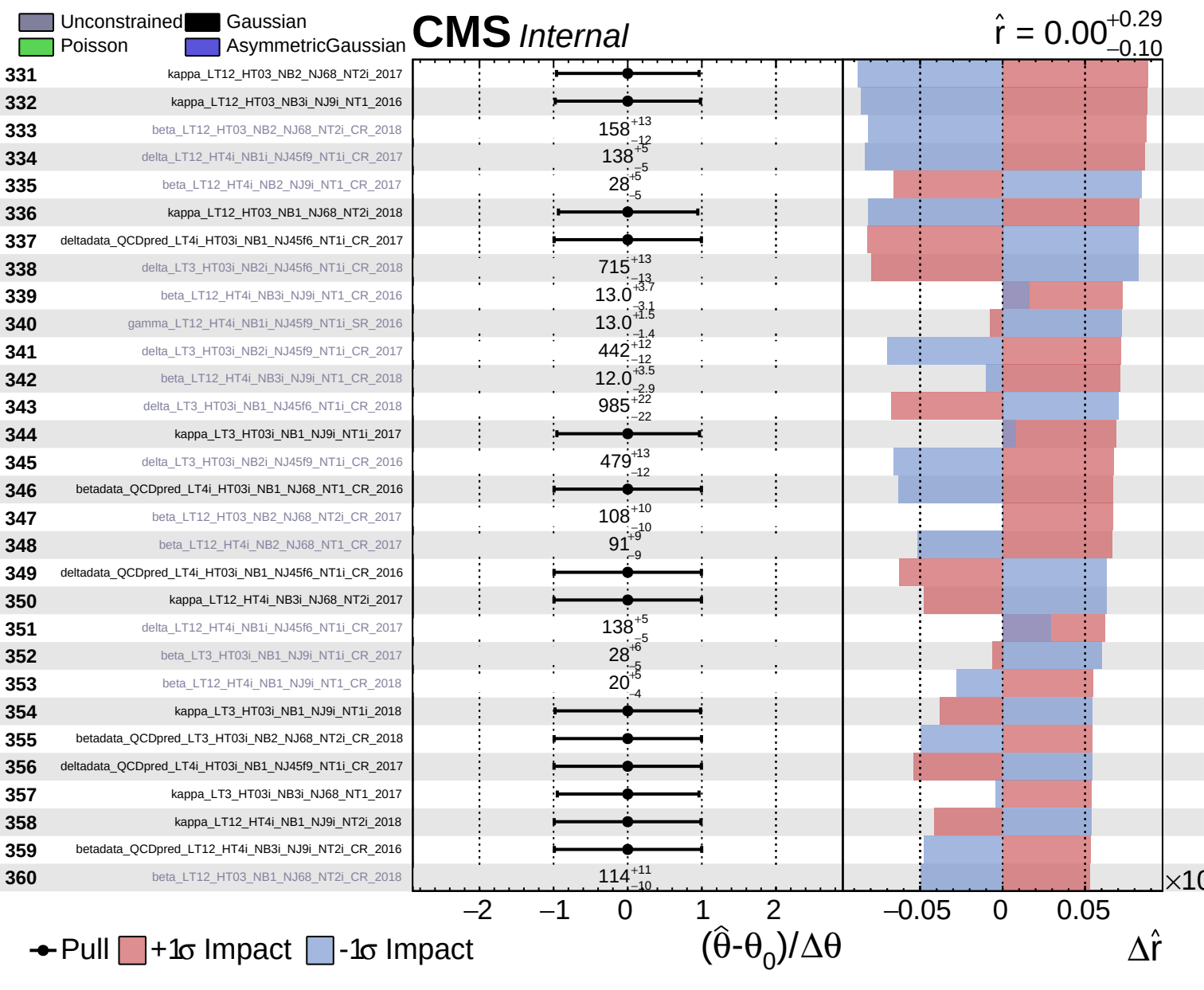

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
181 kappa_LT12_HT03_NB1_NJ9i_NT1_2017
182 kappa_LT12_HT03_NB1_NJ68_NT1_2017
183 beta_LT12_HT03_NB1_NJ68_NT1_CR_2016
184 kappa_LT3_HT03i_NB1_NJ68_NT1_2016
185 beta_LT12_HT03_NB1_NJ68_NT1_CR_2017
186 kappa_LT3_HT03i_NB2_NJ9i_NT2i_2016
187 beta_LT12_HT4i_NB1_NJ68_NT2i_CR_2016
188 beta_LT12_HT4i_NB1_NJ9i_NT2i_CR_2018
189 beta_LT12_HT03_NB1_NJ68_NT1_CR_2018
190 kappa_LT3_HT03i_NB2_NJ9i_NT2i_2017
191 beta_LT12_HT03_NB2_NJ68_NT1_CR_2016
192 beta_LT3_HT03i_NB2_NJ68_NT1_CR_2018
193 beta_LT12_HT4i_NB2_NJ68_NT1_CR_2016
194 delta_LT4i_HT03i_NB1_NJ45f6_NT1i_CR_2016
195 betadata_QCDpred_LT12_HT03_NB1_NJ68_NT1_CR_2018
196 beta_LT12_HT03_NB1_NJ9i_NT1_CR_2017
197 delta_LT12_HT03_NB1_NJ45f6_NT1i_CR_2018
198 beta_LT12_HT4i_NB1_NJ68_NT1_CR_2016
199 beta_LT3_HT03i_NB2_NJ9i_NT1_CR_2017
200 beta_LT12_HT03_NB3i_NJ9i_NT2i_CR_2018
201 delta_LT4i_HT03i_NB1_NJ45f9_NT1i_CR_2016
202 deltadata_QCDpred_LT4i_HT03i_NB1i_NJ45f9_NT1i_CR_2016
203 beta_LT12_HT03_NB1_NJ9i_NT1_CR_2016
204 kappa_LT12_HT03_NB3i_NJ9i_NT1_2018
205 deltadata_QCDpred_LT4i_HT03i_NB1i_NJ45f9_NT1i_CR_2017
206 delta_LT12_HT4i_NB1i_NJ45f6_NT1i_CR_2016
207 kappa_LT12_HT03_NB3i_NJ9i_NT1_2017
208 deltadata_QCDpred_LT4i_HT03i_NB1i_NJ45f6_NT1i_CR_2017
209 beta_LT12_HT03_NB1_NJ68_NT2i_CR_2017
210 beta_LT12_HT03_NB3i_NJ9i_NT2i_CR_2017
2670 +50 −50
3160 +60 −50
13.0 +3.7 −3.1
6.0 +2.6 −2.0
3660 +60 −60
2360 +50 −50
366 +19 −19
63 +8 −7
179 +10 −9
172 +13 −12
5780 +50 −50
110 +10 −10
13.0 +3.9 −3.2
15.0 +4.1 −3.4
179 +14 −13
109 +10 −10
117 +4 −4
118 +11 −10
10.0 +3.4 −2.8
−2 −1 0 1 2
−0.2 0 0.2
×10
Pull +1σ Impact -1σ Impact
(θ̂-θ0)/Δθ
Δr̂

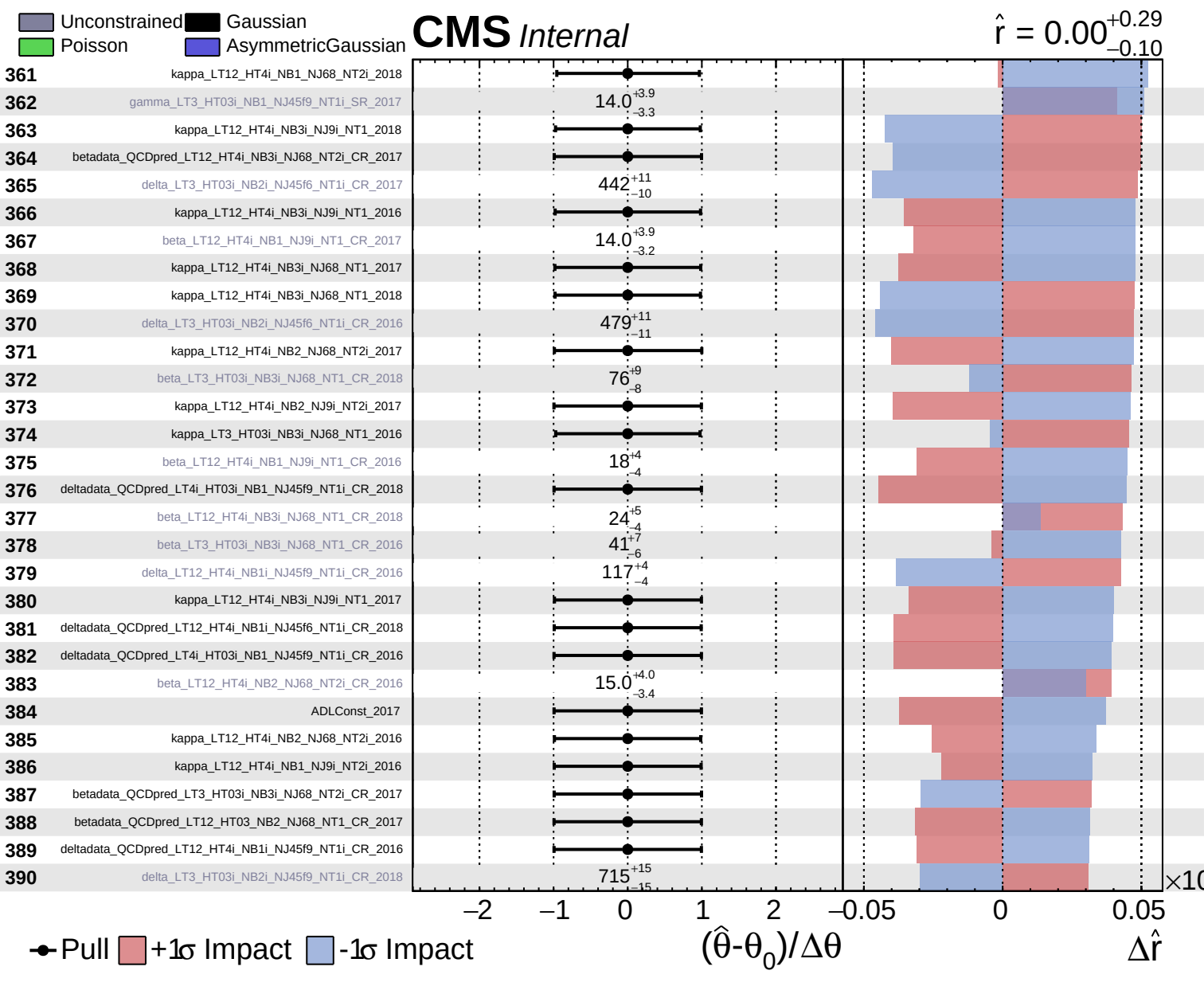

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
211 kappa_LT12_HT03_NB3i_NJ9i_NT2i_2017
212 beta_LT12_HT4i_NB2_NJ9i_NT1_CR_2016
213 beta_LT12_HT03_NB1_NJ9i_NT1_CR_2018
214 betadata_QCDpred_LT4i_HT03i_NB3i_NJ68_NT1_CR_2017
215 AWxsec_2017
216 deltadata_QCDpred_LT4i_HT03i_NB1i_NJ45f6_NT1i_CR_2016
217 beta_LT12_HT03_NB3i_NJ68_NT1_CR_2018
218 kappa_LT12_HT4i_NB3i_NJ9i_NT2i_2018
219 beta_LT12_HT03_NB3i_NJ9i_NT2i_2016
220 beta_LT12_HT4i_NB1_NJ9i_NT2i_CR_2016
221 kappa_LT12_HT03_NB3i_NJ68_NT1_2017
222 beta_LT12_HT03_NB3i_NJ9i_NT1_CR_2017
223 beta_LT3_HT03i_NB1_NJ68_NT1_CR_2017
224 beta_LT12_HT03_NB2_NJ68_NT1_CR_2018
225 gamma_LT12_HT03_NB2i_NJ45f9_NT1i_SR_2018
226 kappa_LT3_HT03i_NB1_NJ68_NT2i_2017
227 kappa_LT3_HT03i_NB2_NJ9i_NT2i_2018
228 beta_LT12_HT03_NB2_NJ68_NT1_CR_2017
229 kappa_LT12_HT03_NB2_NJ9i_NT2i_2018
230 kappa_LT12_HT4i_NB3i_NJ68_NT2i_2018
231 beta_LT3_HT03i_NB2_NJ68_NT2i_CR_2016
232 deltadata_QCDpred_LT12_HT03_NB1_NJ45f6_NT1i_CR_2018
233 kappa_LT12_HT4i_NB3i_NJ9i_NT2i_2016
234 beta_LT3_HT03i_NB1_NJ68_NT2i_CR_2016
235 kappa_LT12_HT03_NB1_NJ9i_NT1_2016
236 beta_LT3_HT03i_NB2_NJ9i_NT1_CR_2018
237 gamma_LT3_HT03i_NB2i_NJ45f6_NT1i_SR_2016
238 beta_LT12_HT4i_NB1_NJ68_NT2i_CR_2018
239 gamma_LT3_HT03i_NB2i_NJ45f6_NT1i_SR_2018
240 delta_LT12_HT03_NB1_NJ45f6_NT1i_CR_2016
22 +5 −4
190 +14 −13
862 +29 −28
6.0 +2.6 −2.0
3.0 +2.0 −1.4
61 +8 −7
359 +19 −18
3700 +60 −60
281 +8 −8
2880 +50 −50
15.0 +4.1 −3.5
11.0 +3.6 −3.0
26 +5 −5
8.0 +1.4 −1.2
15.0 +3.9 −3.3
11.0 +1.6 −1.4
4030 +40 −40
×10
−2 −1 0 1 2
−0.2 −0.1 0 0.1 0.2
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂

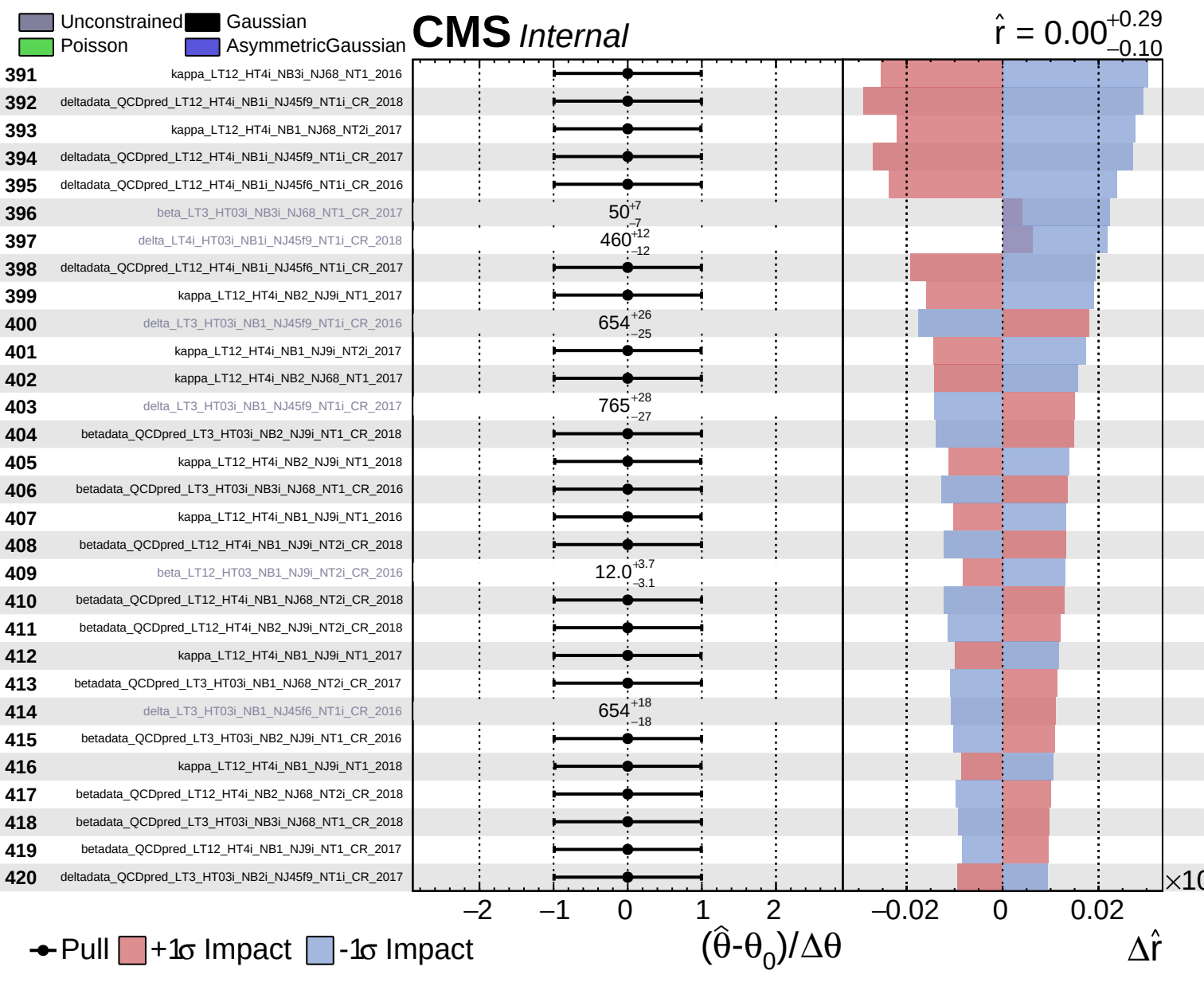

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
241 kappa_LT12_HT4i_NB1_NJ68_NT2i_2016
242 kappa_LT12_HT03_NB2_NJ9i_NT1_2017
243 kappa_LT12_HT03_NB1_NJ9i_NT2i_2018
244 kappa_LT12_HT03_NB3i_NJ68_NT2i_2018
245 beta_LT12_HT03_NB2_NJ9i_NT1_CR_2017
158 +12 −12
246 beta_LT12_HT4i_NB1_NJ68_NT2i_CR_2017
16.0 +4.2 −3.5
247 betadata_QCDpred_LT4i_HT03i_NB1_NJ9i_NT1i_CR_2017
248 beta_LT12_HT4i_NB1_NJ68_NT1_CR_2018
168 +12 −12
249 gamma_LT12_HT03_NB2i_NJ45f9_NT1i_SR_2017
170 +7 −6
250 kappa_LT3_HT03i_NB2_NJ68_NT2i_2016
251 kappa_LT12_HT03_NB3i_NJ68_NT1_2016
252 kappa_LT12_HT4i_NB2_NJ68_NT2i_2018
253 kappa_LT12_HT4i_NB3i_NJ68_NT2i_2016
254 gamma_LT12_HT03_NB1_NJ45f9_NT1i_SR_2017
217 +10 −10
255 beta_LT12_HT03_NB3i_NJ9i_NT1_CR_2018
89 +9 −9
256 betadata_QCDpred_LT4i_HT03i_NB1_NJ9i_NT1i_CR_2018
257 betadata_QCDpred_LT4i_HT03i_NB2_NJ68_NT1_CR_2018
258 beta_LT12_HT4i_NB2_NJ68_NT1_CR_2018
106 +10 −9
259 beta_LT12_HT03_NB2_NJ9i_NT1_CR_2016
127 +11 −11
260 beta_LT3_HT03i_NB2_NJ9i_NT1_CR_2016
16 +4 −4
261 kappa_LT3_HT03i_NB1_NJ68_NT2i_2016
262 beta_LT12_HT03_NB3i_NJ68_NT1_CR_2017
531 +23 −22
263 deltadata_QCDpred_LT4i_HT03i_NB1i_NJ45f9_NT1i_CR_2018
264 kappa_LT3_HT03i_NB2_NJ9i_NT1_2017
265 delta_LT12_HT03_NB1_NJ45f6_NT1i_CR_2017
4520 +50 −50
266 kappa_LT12_HT03_NB3i_NJ9i_NT2i_2016
267 gamma_LT3_HT03i_NB1_NJ45f9_NT1i_SR_2016
6.0 +2.7 −2.1
268 beta_LT3_HT03i_NB1_NJ68_NT1_CR_2018
443 +21 −20
269 beta_LT3_HT03i_NB1_NJ9i_NT1i_CR_2016
28 +6 −5
270 gamma_LT12_HT03_NB1_NJ45f9_NT1i_SR_2018
295 +12 −12
×10
−2 −1 0 1 2
−0.1 0 0.1
Pull +1σ Impact -1σ Impact
(θ̂-θ0)/Δθ
Δr̂


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
271 beta_LT3_HT03i_NB1_NJ68_NT1_CR_2016
272 deltadata_QCDpred_LT4i_HT03i_NB1_NJ45f6_NT1i_CR_2018
273 beta_LT12_HT03_NB3i_NJ68_NT1_CR_2016
274 beta_LT3_HT03i_NB2_NJ68_NT1_CR_2016
275 beta_LT12_HT03_NB2_NJ9i_NT2i_CR_2016
276 betadata_QCDpred_LT4i_HT03i_NB1_NJ68_NT1_CR_2018
277 kappa_LT12_HT03_NB2_NJ68_NT2i_2016
278 kappa_LT12_HT03_NB2_NJ68_NT2i_2018
279 delta_LT12_HT03_NB2i_NJ45f6_NT1i_CR_2016
280 deltadata_QCDpred_LT12_HT03_NB1_NJ45f6_NT1i_CR_2017
281 gamma_LT12_HT4i_NB1i_NJ45f6_NT1i_SR_2017
282 betadata_QCDpred_LT3_HT03i_NB3i_NJ9i_NT1i_CR_2018
283 beta_LT12_HT03_NB3i_NJ9i_NT1_CR_2016
284 beta_LT3_HT03i_NB1_NJ9i_NT1i_CR_2018
285 gamma_LT12_HT03_NB2i_NJ45f9_NT1i_SR_2016
286 delta_LT12_HT4i_NB1i_NJ45f6_NT1i_CR_2018
287 delta_LT4i_HT03i_NB1_NJ45f9_NT1i_CR_2018
288 beta_LT3_HT03i_NB2_NJ68_NT1_CR_2017
289 kappa_LT3_HT03i_NB1_NJ9i_NT1i_2016
290 kappa_LT12_HT4i_NB2_NJ9i_NT2i_2018
291 kappa_LT3_HT03i_NB2_NJ9i_NT1_2016
292 betadata_QCDpred_LT12_HT03_NB1_NJ68_NT1_CR_2017
293 AlepSF_2016
294 kappa_LT12_HT03_NB2_NJ9i_NT1_2016
295 kappa_LT3_HT03i_NB2_NJ9i_NT1_2018
296 deltadata_QCDpred_LT12_HT03_NB1_NJ45f6_NT1i_CR_2016
297 kappa_LT12_HT03_NB3i_NJ68_NT2i_2017
298 beta_LT12_HT03_NB2_NJ68_NT2i_CR_2016
299 kappa_LT12_HT4i_NB2_NJ68_NT1_2016
300 betadata_QCDpred_LT12_HT03_NB1_NJ68_NT1_CR_2016
276 +17 −16
413 +20 −19
231 +15 −15
14.0 +3.9 −3.3
3333 +29 −29
14.0 +1.4 −1.3
31 +6 −5
28 +6 −5
142 +6 −6
209 +6 −6
286 +17 −16
257 +16 −15
94 +10 −9
−2 −1 0 1 2
−0.1 0 0.1
×10
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
301 kappa_LT12_HT4i_NB1_NJ68_NT1_2016
302 kappa_LT12_HT4i_NB1_NJ68_NT1_2018
303 beta_LT12_HT4i_NB2_NJ9i_NT1_CR_2018
304 beta_LT12_HT4i_NB1_NJ68_NT1_CR_2017
305 kappa_LT12_HT4i_NB2_NJ9i_NT1_2016
306 delta_LT12_HT03_NB2i_NJ45f6_NT1i_CR_2018
307 kappa_LT12_HT03_NB1_NJ68_NT2i_2016
308 kappa_LT12_HT4i_NB3i_NJ9i_NT2i_2017
309 AlepSF_2018
310 beta_LT12_HT4i_NB3i_NJ68_NT1_CR_2016
311 beta_LT12_HT03_NB1_NJ68_NT2i_CR_2016
312 betadata_QCDpred_LT4i_HT03i_NB2_NJ68_NT1_CR_2016
313 beta_LT12_HT4i_NB3i_NJ68_NT1_CR_2017
314 beta_LT12_HT03_NB2_NJ9i_NT2i_CR_2018
315 beta_LT12_HT03_NB1_NJ9i_NT2i_CR_2018
316 betadata_QCDpred_LT4i_HT03i_NB2_NJ9i_NT1_CR_2018
317 betadata_QCDpred_LT4i_HT03i_NB3i_NJ68_NT1_CR_2018
318 gamma_LT3_HT03i_NB1_NJ45f9_NT1i_SR_2018
319 gamma_LT3_HT03i_NB2i_NJ45f6_NT1i_SR_2017
320 delta_LT3_HT03i_NB1_NJ45f6_NT1i_CR_2017
321 ADLConst_2018
322 kappa_LT12_HT03_NB2_NJ9i_NT2i_2016
323 beta_LT12_HT03_NB3i_NJ68_NT2i_CR_2017
324 AlepSF_2017
325 kappa_LT12_HT4i_NB2_NJ9i_NT2i_2016
326 kappa_LT12_HT4i_NB2_NJ68_NT1_2018
327 betadata_QCDpred_LT4i_HT03i_NB1_NJ68_NT1_CR_2017
328 betadata_QCDpred_LT4i_HT03i_NB2_NJ68_NT1_CR_2017
329 delta_LT12_HT03_NB2i_NJ45f6_NT1i_CR_2017
330 beta_LT12_HT03_NB3i_NJ68_NT2i_CR_2018
21 +5 −4
110 +10 −10
5640 +40 −40
9.0 +3.1 −2.5
75 +9 −8
14.0 +3.8 −3.2
30 +6 −5
26 +5 −5
20 +5 −4
8.0 +1.3 −1.2
765 +20 −19
31 +6 −5
3770 +31 −30
41 +7 −6
×10
−2
−1
0
1
2
−0.1
0
0.1
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
331 kappa_LT12_HT03_NB2_NJ68_NT2i_2017
332 kappa_LT12_HT03_NB3i_NJ9i_NT1_2016
333 beta_LT12_HT03_NB2_NJ68_NT2i_CR_2018
334 delta_LT12_HT4i_NB1i_NJ45f9_NT1i_CR_2017
335 beta_LT12_HT4i_NB2_NJ9i_NT1_CR_2017
336 kappa_LT12_HT03_NB1_NJ68_NT2i_2018
337 deltadata_QCDpred_LT4i_HT03i_NB1_NJ45f6_NT1i_CR_2017
338 delta_LT3_HT03i_NB2i_NJ45f6_NT1i_CR_2018
339 beta_LT12_HT4i_NB3i_NJ9i_NT1_CR_2016
340 gamma_LT12_HT4i_NB1i_NJ45f9_NT1i_SR_2016
341 delta_LT3_HT03i_NB2i_NJ45f9_NT1i_CR_2017
342 beta_LT12_HT4i_NB3i_NJ9i_NT1_CR_2018
343 delta_LT3_HT03i_NB1_NJ45f6_NT1i_CR_2018
344 kappa_LT3_HT03i_NB1_NJ9i_NT1i_2017
345 delta_LT3_HT03i_NB2i_NJ45f9_NT1i_CR_2016
346 betadata_QCDpred_LT4i_HT03i_NB1_NJ68_NT1_CR_2016
347 beta_LT12_HT03_NB2_NJ68_NT2i_CR_2017
348 beta_LT12_HT4i_NB2_NJ68_NT1_CR_2017
349 deltadata_QCDpred_LT4i_HT03i_NB1_NJ45f6_NT1i_CR_2016
350 kappa_LT12_HT4i_NB3i_NJ68_NT2i_2017
351 delta_LT12_HT4i_NB1i_NJ45f6_NT1i_CR_2017
352 beta_LT3_HT03i_NB1_NJ9i_NT1i_CR_2017
353 beta_LT12_HT4i_NB1_NJ9i_NT1_CR_2018
354 kappa_LT3_HT03i_NB1_NJ9i_NT1i_2018
355 betadata_QCDpred_LT3_HT03i_NB2_NJ68_NT2i_CR_2018
356 deltadata_QCDpred_LT4i_HT03i_NB1_NJ45f9_NT1i_CR_2017
357 kappa_LT3_HT03i_NB3i_NJ68_NT1_2017
358 kappa_LT12_HT4i_NB1_NJ9i_NT2i_2018
359 betadata_QCDpred_LT12_HT4i_NB3i_NJ9i_NT2i_CR_2016
360 beta_LT12_HT03_NB1_NJ68_NT2i_CR_2018
158 +13 −12
138 +5 −5
28 +5 −5
715 +13 −13
13.0 +3.7 −3.1
13.0 +1.5 −1.4
442 +12 −12
12.0 +3.5 −2.9
985 +22 −22
479 +13 −12
108 +10 −10
91 +9 −9
138 +5 −5
28 +6 −5
20 +5 −4
114 +11 −10
−2
−1
0
1
2
(θ̂-θ0)/Δθ
−0.05
0
0.05
Δr̂
×10
Pull
+1σ Impact
-1σ Impact


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
361 kappa_LT12_HT4i_NB1_NJ68_NT2i_2018
362 gamma_LT3_HT03i_NB1_NJ45f9_NT1i_SR_2017
14.0 +3.9 −3.3
363 kappa_LT12_HT4i_NB3i_NJ9i_NT1_2018
364 betadata_QCDpred_LT12_HT4i_NB3i_NJ68_NT2i_CR_2017
365 delta_LT3_HT03i_NB2i_NJ45f6_NT1i_CR_2017
442 +11 −10
366 kappa_LT12_HT4i_NB3i_NJ9i_NT1_2016
367 beta_LT12_HT4i_NB1_NJ9i_NT1_CR_2017
14.0 +3.9 −3.2
368 kappa_LT12_HT4i_NB3i_NJ68_NT1_2017
369 kappa_LT12_HT4i_NB3i_NJ68_NT1_2018
370 delta_LT3_HT03i_NB2i_NJ45f6_NT1i_CR_2016
479 +11 −11
371 kappa_LT12_HT4i_NB2_NJ68_NT2i_2017
372 beta_LT3_HT03i_NB3i_NJ68_NT1_CR_2018
76 +9 −8
373 kappa_LT12_HT4i_NB2_NJ9i_NT2i_2017
374 kappa_LT3_HT03i_NB3i_NJ68_NT1_2016
375 beta_LT12_HT4i_NB1_NJ9i_NT1_CR_2016
18 +4 −4
376 deltadata_QCDpred_LT4i_HT03i_NB1_NJ45f9_NT1i_CR_2018
377 beta_LT12_HT4i_NB3i_NJ68_NT1_CR_2018
24 +5 −4
378 beta_LT3_HT03i_NB3i_NJ68_NT1_CR_2016
41 +7 −6
379 delta_LT12_HT4i_NB1i_NJ45f9_NT1i_CR_2016
117 +4 −4
380 kappa_LT12_HT4i_NB3i_NJ9i_NT1_2017
381 deltadata_QCDpred_LT12_HT4i_NB1i_NJ45f6_NT1i_CR_2018
382 deltadata_QCDpred_LT4i_HT03i_NB1_NJ45f9_NT1i_CR_2016
383 beta_LT12_HT4i_NB2_NJ68_NT2i_CR_2016
15.0 +4.0 −3.4
384 ADLConst_2017
385 kappa_LT12_HT4i_NB2_NJ68_NT2i_2016
386 kappa_LT12_HT4i_NB1_NJ9i_NT2i_2016
387 betadata_QCDpred_LT3_HT03i_NB3i_NJ68_NT2i_CR_2017
388 betadata_QCDpred_LT12_HT03_NB2_NJ68_NT1_CR_2017
389 deltadata_QCDpred_LT12_HT4i_NB1i_NJ45f9_NT1i_CR_2016
390 delta_LT3_HT03i_NB2i_NJ45f9_NT1i_CR_2018
715 +15 −15
×10
−2 −1 0 1 2
−0.05 0 0.05
Pull +1σ Impact -1σ Impact
(θ̂-θ0)/Δθ
Δr̂


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
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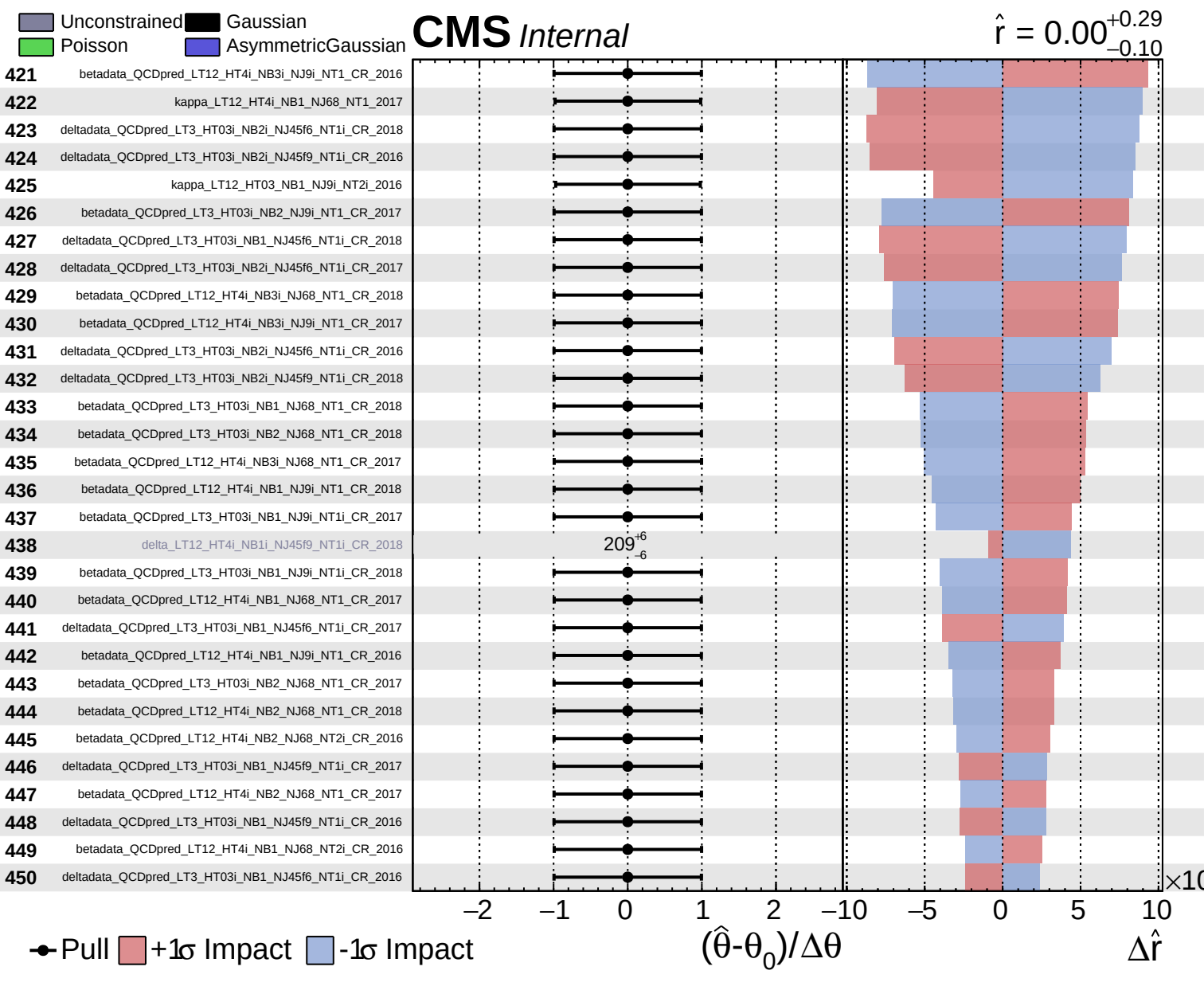
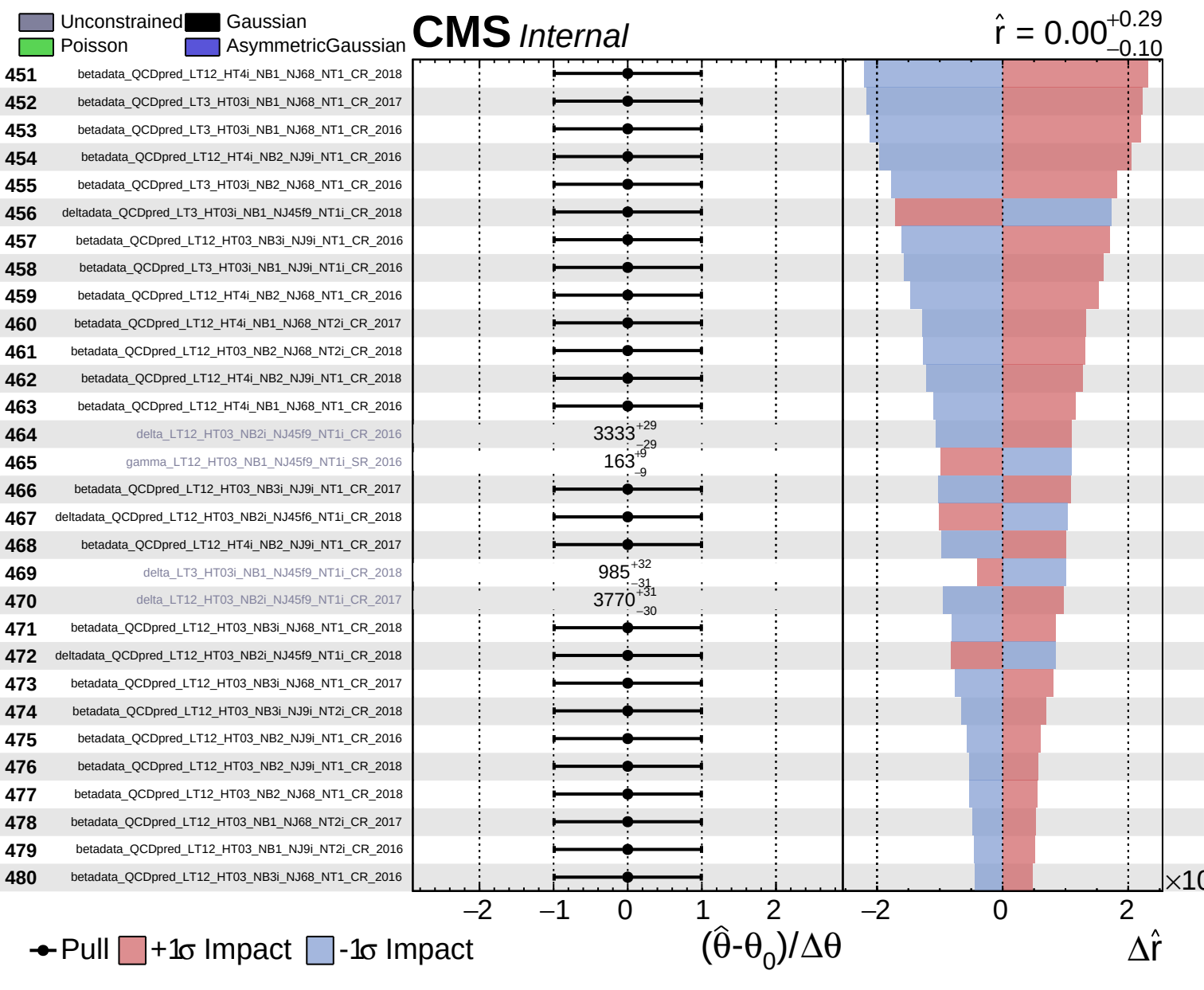
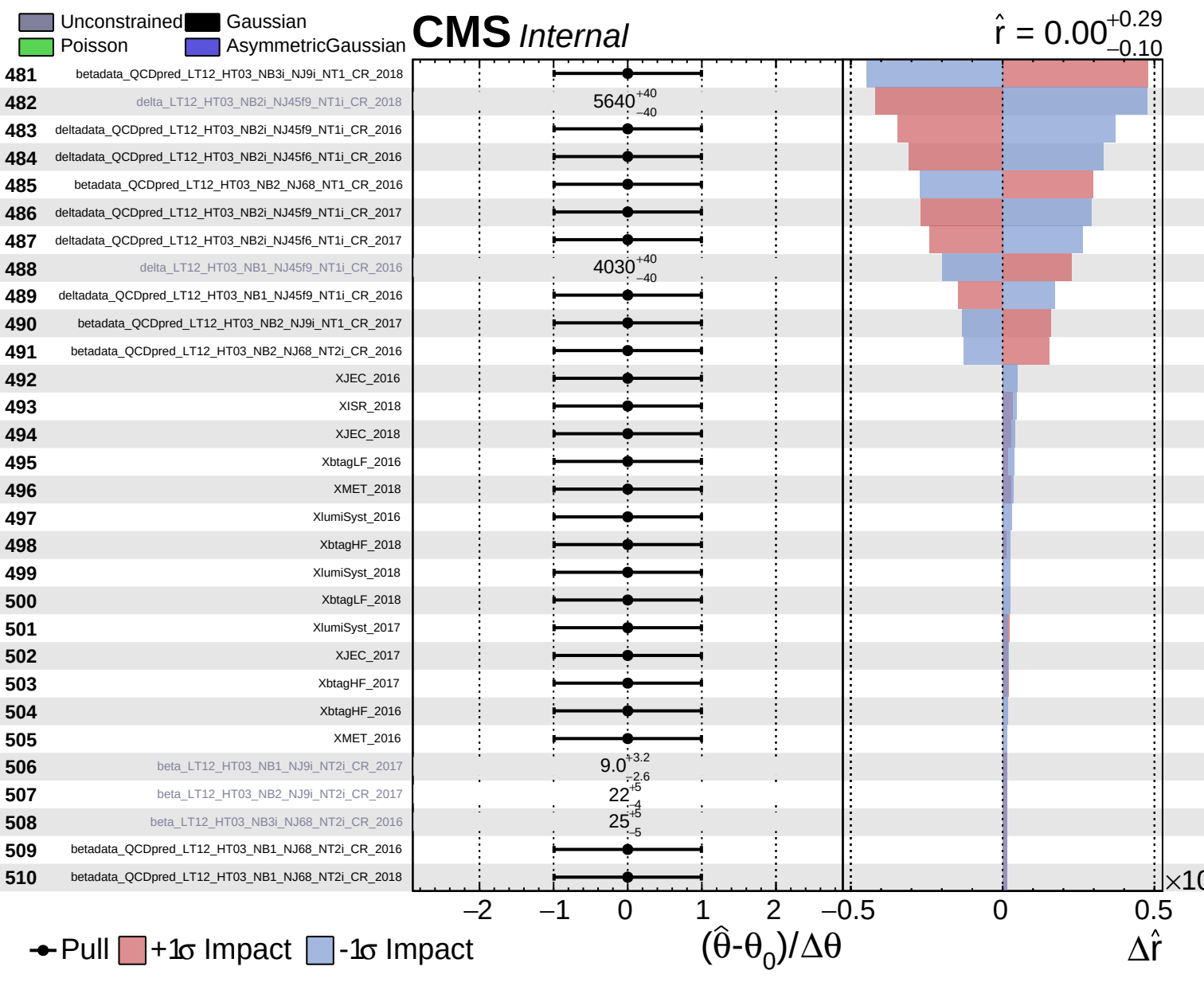
392 deltadata_QCDpred_LT12_HT4i_NB1i_NJ45f9_NT1i_CR_2018
393 kappa_LT12_HT4i_NB1_NJ68_NT2i_2017
394 deltadata_QCDpred_LT12_HT4i_NB1i_NJ45f9_NT1i_CR_2017
395 deltadata_QCDpred_LT12_HT4i_NB1i_NJ45f6_NT1i_CR_2016
396 beta_LT3_HT03i_NB3i_NJ68_NT1_CR_2017
50 +7 −7
397 delta_LT4i_HT03i_NB1i_NJ45f9_NT1i_CR_2018
460 +12 −12
398 deltadata_QCDpred_LT12_HT4i_NB1i_NJ45f6_NT1i_CR_2017
399 kappa_LT12_HT4i_NB2_NJ9i_NT1_2017
400 delta_LT3_HT03i_NB1_NJ45f9_NT1i_CR_2016
654 +26 −25
401 kappa_LT12_HT4i_NB1_NJ9i_NT2i_2017
402 kappa_LT12_HT4i_NB2_NJ68_NT1_2017
403 delta_LT3_HT03i_NB1_NJ45f9_NT1i_CR_2017
765 +28 −27
404 betadata_QCDpred_LT3_HT03i_NB2_NJ9i_NT1_CR_2018
405 kappa_LT12_HT4i_NB2_NJ9i_NT1_2018
406 betadata_QCDpred_LT3_HT03i_NB3i_NJ68_NT1_CR_2016
407 kappa_LT12_HT4i_NB1_NJ9i_NT1_2016
408 betadata_QCDpred_LT12_HT4i_NB1_NJ9i_NT2i_CR_2018
409 beta_LT12_HT03_NB1_NJ9i_NT2i_CR_2016
12.0 +3.7 −3.1
410 betadata_QCDpred_LT12_HT4i_NB1_NJ68_NT2i_CR_2018
411 betadata_QCDpred_LT12_HT4i_NB2_NJ9i_NT2i_CR_2018
412 kappa_LT12_HT4i_NB1_NJ9i_NT1_2017
413 betadata_QCDpred_LT3_HT03i_NB1_NJ68_NT2i_CR_2017
414 delta_LT3_HT03i_NB1_NJ45f6_NT1i_CR_2016
654 +18 −18
415 betadata_QCDpred_LT3_HT03i_NB2_NJ9i_NT1_CR_2016
416 kappa_LT12_HT4i_NB1_NJ9i_NT1_2018
417 betadata_QCDpred_LT12_HT4i_NB2_NJ68_NT2i_CR_2018
418 betadata_QCDpred_LT3_HT03i_NB3i_NJ68_NT1_CR_2018
419 betadata_QCDpred_LT12_HT4i_NB1_NJ9i_NT1_CR_2017
420 deltadata_QCDpred_LT3_HT03i_NB2i_NJ45f9_NT1i_CR_2017
×10
−2 −1 0 1 2
−0.02 0 0.02
Pull +1σ Impact -1σ Impact
(θ̂-θ0)/Δθ
Δr̂


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
421 betadata_QCDpred_LT12_HT4i_NB3i_NJ9i_NT1_CR_2016
422 kappa_LT12_HT4i_NB1_NJ68_NT1_2017
423 deltadata_QCDpred_LT3_HT03i_NB2i_NJ45f6_NT1i_CR_2018
424 deltadata_QCDpred_LT3_HT03i_NB2i_NJ45f9_NT1i_CR_2016
425 kappa_LT12_HT03_NB1_NJ9i_NT2i_2016
426 betadata_QCDpred_LT3_HT03i_NB2_NJ9i_NT1_CR_2017
427 deltadata_QCDpred_LT3_HT03i_NB1_NJ45f6_NT1i_CR_2018
428 deltadata_QCDpred_LT3_HT03i_NB2i_NJ45f6_NT1i_CR_2017
429 betadata_QCDpred_LT12_HT4i_NB3i_NJ68_NT1_CR_2018
430 betadata_QCDpred_LT12_HT4i_NB3i_NJ9i_NT1_CR_2017
431 deltadata_QCDpred_LT3_HT03i_NB2i_NJ45f6_NT1i_CR_2016
432 deltadata_QCDpred_LT3_HT03i_NB2i_NJ45f9_NT1i_CR_2018
433 betadata_QCDpred_LT3_HT03i_NB1_NJ68_NT1_CR_2018
434 betadata_QCDpred_LT3_HT03i_NB2_NJ68_NT1_CR_2018
435 betadata_QCDpred_LT12_HT4i_NB3i_NJ68_NT1_CR_2017
436 betadata_QCDpred_LT12_HT4i_NB1_NJ9i_NT1_CR_2018
437 betadata_QCDpred_LT3_HT03i_NB1_NJ9i_NT1i_CR_2017
438 delta_LT12_HT4i_NB1i_NJ45f9_NT1i_CR_2018
209 +6 −6
439 betadata_QCDpred_LT3_HT03i_NB1_NJ9i_NT1i_CR_2018
440 betadata_QCDpred_LT12_HT4i_NB1_NJ68_NT1_CR_2017
441 deltadata_QCDpred_LT3_HT03i_NB1_NJ45f6_NT1i_CR_2017
442 betadata_QCDpred_LT12_HT4i_NB1_NJ9i_NT1_CR_2016
443 betadata_QCDpred_LT3_HT03i_NB2_NJ68_NT1_CR_2017
444 betadata_QCDpred_LT12_HT4i_NB2_NJ68_NT1_CR_2018
445 betadata_QCDpred_LT12_HT4i_NB2_NJ68_NT2i_CR_2016
446 deltadata_QCDpred_LT3_HT03i_NB1_NJ45f9_NT1i_CR_2017
447 betadata_QCDpred_LT12_HT4i_NB2_NJ68_NT1_CR_2017
448 deltadata_QCDpred_LT3_HT03i_NB1_NJ45f9_NT1i_CR_2016
449 betadata_QCDpred_LT12_HT4i_NB1_NJ68_NT2i_CR_2016
450 deltadata_QCDpred_LT3_HT03i_NB1_NJ45f6_NT1i_CR_2016
−2 −1 0 1 2
−10 −5 0 5 10
×10
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
451 betadata_QCDpred_LT12_HT4i_NB1_NJ68_NT1_CR_2018
452 betadata_QCDpred_LT3_HT03i_NB1_NJ68_NT1_CR_2017
453 betadata_QCDpred_LT3_HT03i_NB1_NJ68_NT1_CR_2016
454 betadata_QCDpred_LT12_HT4i_NB2_NJ9i_NT1_CR_2016
455 betadata_QCDpred_LT3_HT03i_NB2_NJ68_NT1_CR_2016
456 deltadata_QCDpred_LT3_HT03i_NB1_NJ45f9_NT1i_CR_2018
457 betadata_QCDpred_LT12_HT03_NB3i_NJ9i_NT1_CR_2016
458 betadata_QCDpred_LT3_HT03i_NB1_NJ9i_NT1i_CR_2016
459 betadata_QCDpred_LT12_HT4i_NB2_NJ68_NT1_CR_2016
460 betadata_QCDpred_LT12_HT4i_NB1_NJ68_NT2i_CR_2017
461 betadata_QCDpred_LT12_HT03_NB2_NJ68_NT2i_CR_2018
462 betadata_QCDpred_LT12_HT4i_NB2_NJ9i_NT1_CR_2018
463 betadata_QCDpred_LT12_HT4i_NB1_NJ68_NT1_CR_2016
464 delta_LT12_HT03_NB2i_NJ45f9_NT1i_CR_2016
3333 +29 −29
465 gamma_LT12_HT03_NB1_NJ45f9_NT1i_SR_2016
163 +9 −9
466 betadata_QCDpred_LT12_HT03_NB3i_NJ9i_NT1_CR_2017
467 deltadata_QCDpred_LT12_HT03_NB2i_NJ45f6_NT1i_CR_2018
468 betadata_QCDpred_LT12_HT4i_NB2_NJ9i_NT1_CR_2017
469 delta_LT3_HT03i_NB1_NJ45f9_NT1i_CR_2018
985 +32 −31
470 delta_LT12_HT03_NB2i_NJ45f9_NT1i_CR_2017
3770 +31 −30
471 betadata_QCDpred_LT12_HT03_NB3i_NJ68_NT1_CR_2018
472 deltadata_QCDpred_LT12_HT03_NB2i_NJ45f9_NT1i_CR_2018
473 betadata_QCDpred_LT12_HT03_NB3i_NJ68_NT1_CR_2017
474 betadata_QCDpred_LT12_HT03_NB3i_NJ9i_NT2i_CR_2018
475 betadata_QCDpred_LT12_HT03_NB2_NJ9i_NT1_CR_2016
476 betadata_QCDpred_LT12_HT03_NB2_NJ9i_NT1_CR_2018
477 betadata_QCDpred_LT12_HT03_NB2_NJ68_NT1_CR_2018
478 betadata_QCDpred_LT12_HT03_NB1_NJ68_NT2i_CR_2017
479 betadata_QCDpred_LT12_HT03_NB1_NJ9i_NT2i_CR_2016
480 betadata_QCDpred_LT12_HT03_NB3i_NJ68_NT1_CR_2016
−2 −1 0 1 2
−2 0 2
×10
Pull +1σ Impact -1σ Impact
(θ̂-θ0)/Δθ
Δr̂


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
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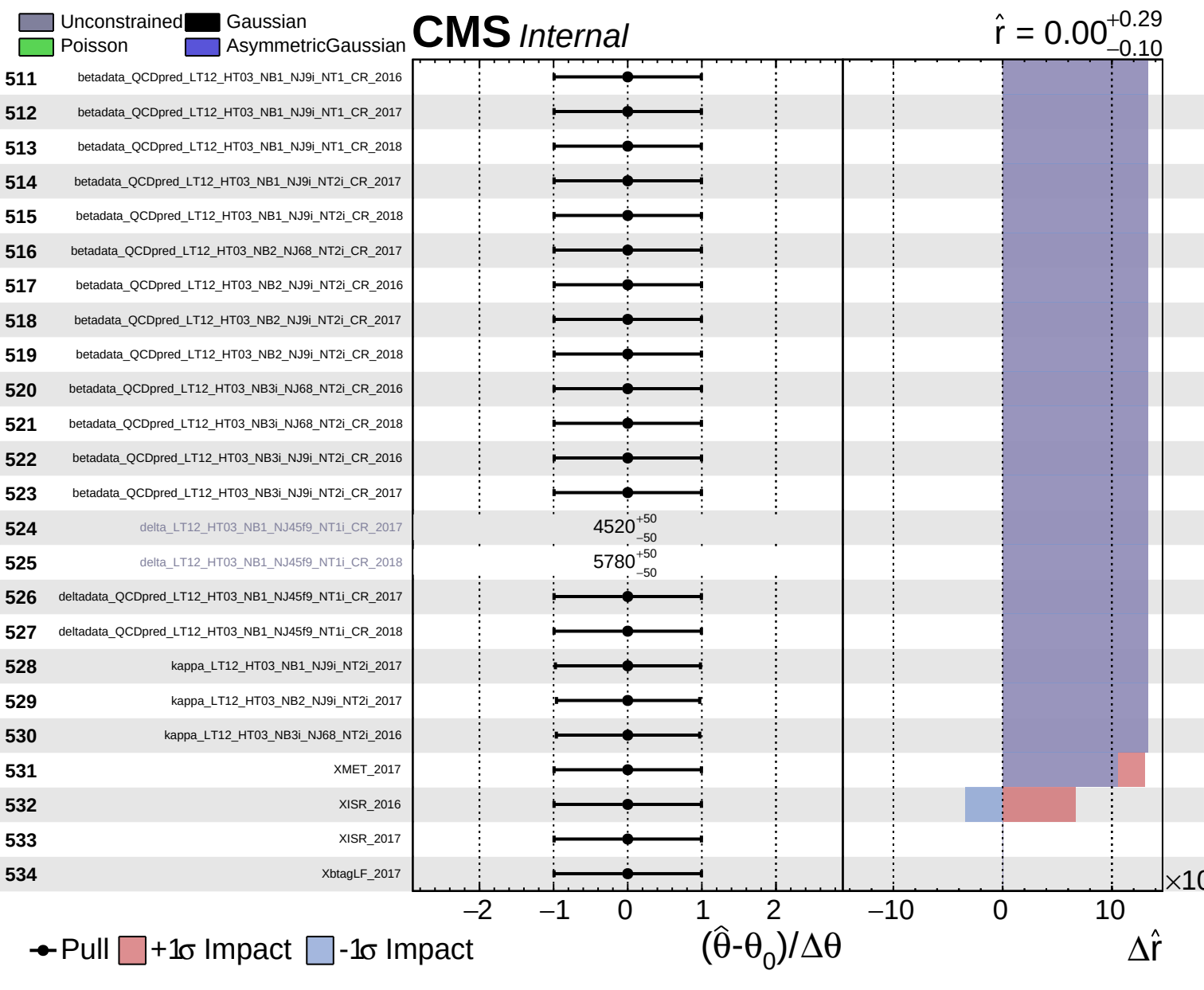
482 delta_LT12_HT03_NB2i_NJ45f9_NT1i_CR_2018
5640 +40 −40
483 deltadata_QCDpred_LT12_HT03_NB2i_NJ45f9_NT1i_CR_2016
484 deltadata_QCDpred_LT12_HT03_NB2i_NJ45f6_NT1i_CR_2016
485 betadata_QCDpred_LT12_HT03_NB2_NJ68_NT1_CR_2016
486 deltadata_QCDpred_LT12_HT03_NB2i_NJ45f9_NT1i_CR_2017
487 deltadata_QCDpred_LT12_HT03_NB2i_NJ45f6_NT1i_CR_2017
488 delta_LT12_HT03_NB1_NJ45f9_NT1i_CR_2016
4030 +40 −40
489 deltadata_QCDpred_LT12_HT03_NB1_NJ45f9_NT1i_CR_2016
490 betadata_QCDpred_LT12_HT03_NB2_NJ9i_NT1_CR_2017
491 betadata_QCDpred_LT12_HT03_NB2_NJ68_NT2i_CR_2016
492 XJEC_2016
493 XISR_2018
494 XJEC_2018
495 XbtagLF_2016
496 XMET_2018
497 XlumiSyst_2016
498 XbtagHF_2018
499 XlumiSyst_2018
500 XbtagLF_2018
501 XlumiSyst_2017
502 XJEC_2017
503 XbtagHF_2017
504 XbtagHF_2016
505 XMET_2016
506 beta_LT12_HT03_NB1_NJ9i_NT2i_CR_2017
9.0 +3.2 −2.6
507 beta_LT12_HT03_NB2_NJ9i_NT2i_CR_2017
22 +5 −4
508 beta_LT12_HT03_NB3i_NJ68_NT2i_CR_2016
25 +5 −5
509 betadata_QCDpred_LT12_HT03_NB1_NJ68_NT2i_CR_2016
510 betadata_QCDpred_LT12_HT03_NB1_NJ68_NT2i_CR_2018
×10
−2 −1 0 1 2
−0.5 0 0.5
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.00 +0.29 −0.10
511 betadata_QCDpred_LT12_HT03_NB1_NJ9i_NT1_CR_2016
512 betadata_QCDpred_LT12_HT03_NB1_NJ9i_NT1_CR_2017
513 betadata_QCDpred_LT12_HT03_NB1_NJ9i_NT1_CR_2018
514 betadata_QCDpred_LT12_HT03_NB1_NJ9i_NT2i_CR_2017
515 betadata_QCDpred_LT12_HT03_NB1_NJ9i_NT2i_CR_2018
516 betadata_QCDpred_LT12_HT03_NB2_NJ68_NT2i_CR_2017
517 betadata_QCDpred_LT12_HT03_NB2_NJ9i_NT2i_CR_2016
518 betadata_QCDpred_LT12_HT03_NB2_NJ9i_NT2i_CR_2017
519 betadata_QCDpred_LT12_HT03_NB2_NJ9i_NT2i_CR_2018
520 betadata_QCDpred_LT12_HT03_NB3i_NJ68_NT2i_CR_2016
521 betadata_QCDpred_LT12_HT03_NB3i_NJ68_NT2i_CR_2018
522 betadata_QCDpred_LT12_HT03_NB3i_NJ9i_NT2i_CR_2016
523 betadata_QCDpred_LT12_HT03_NB3i_NJ9i_NT2i_CR_2017
524 delta_LT12_HT03_NB1_NJ45f9_NT1i_CR_2017
4520 +50 −50
525 delta_LT12_HT03_NB1_NJ45f9_NT1i_CR_2018
5780 +50 −50
526 deltadata_QCDpred_LT12_HT03_NB1_NJ45f9_NT1i_CR_2017
527 deltadata_QCDpred_LT12_HT03_NB1_NJ45f9_NT1i_CR_2018
528 kappa_LT12_HT03_NB1_NJ9i_NT2i_2017
529 kappa_LT12_HT03_NB2_NJ9i_NT2i_2017
530 kappa_LT12_HT03_NB3i_NJ68_NT2i_2016
531 XMET_2017
532 XISR_2016
533 XISR_2017
534 XbtagLF_2017
×10
−2 −1 0 1 2
−10 0 10
Pull +1σ Impact -1σ Impact
(θ̂-θ0)/Δθ
Δr̂