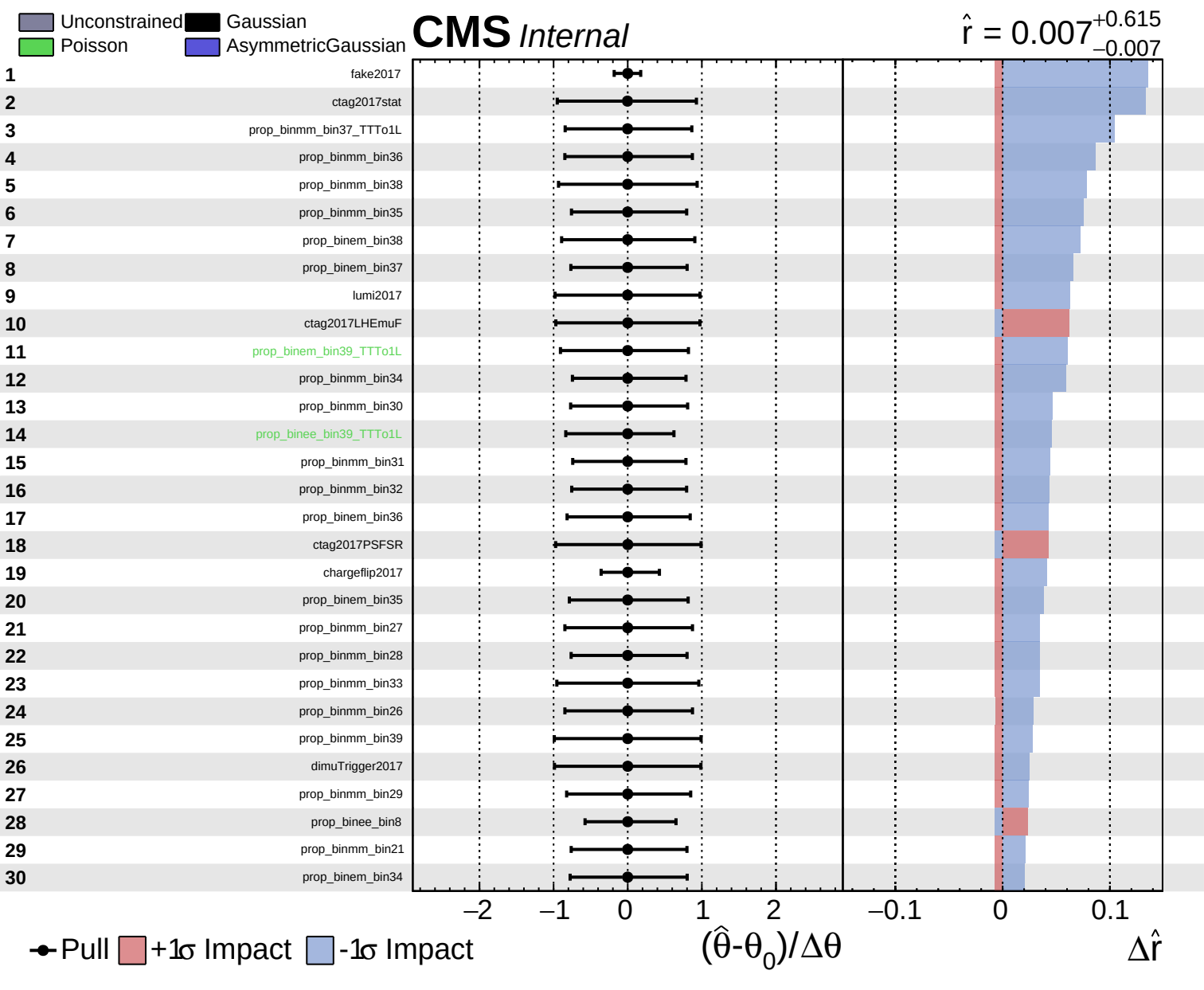
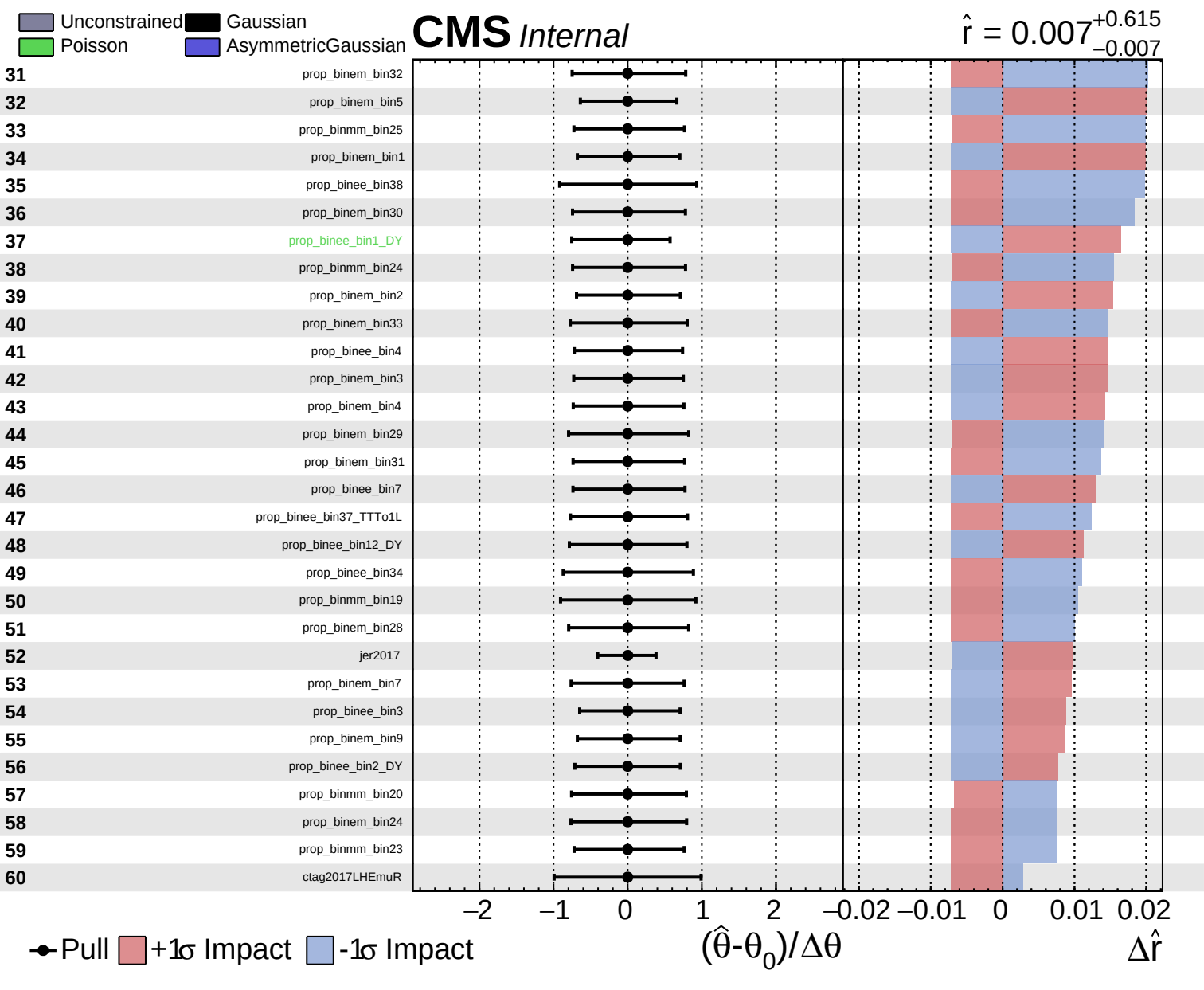
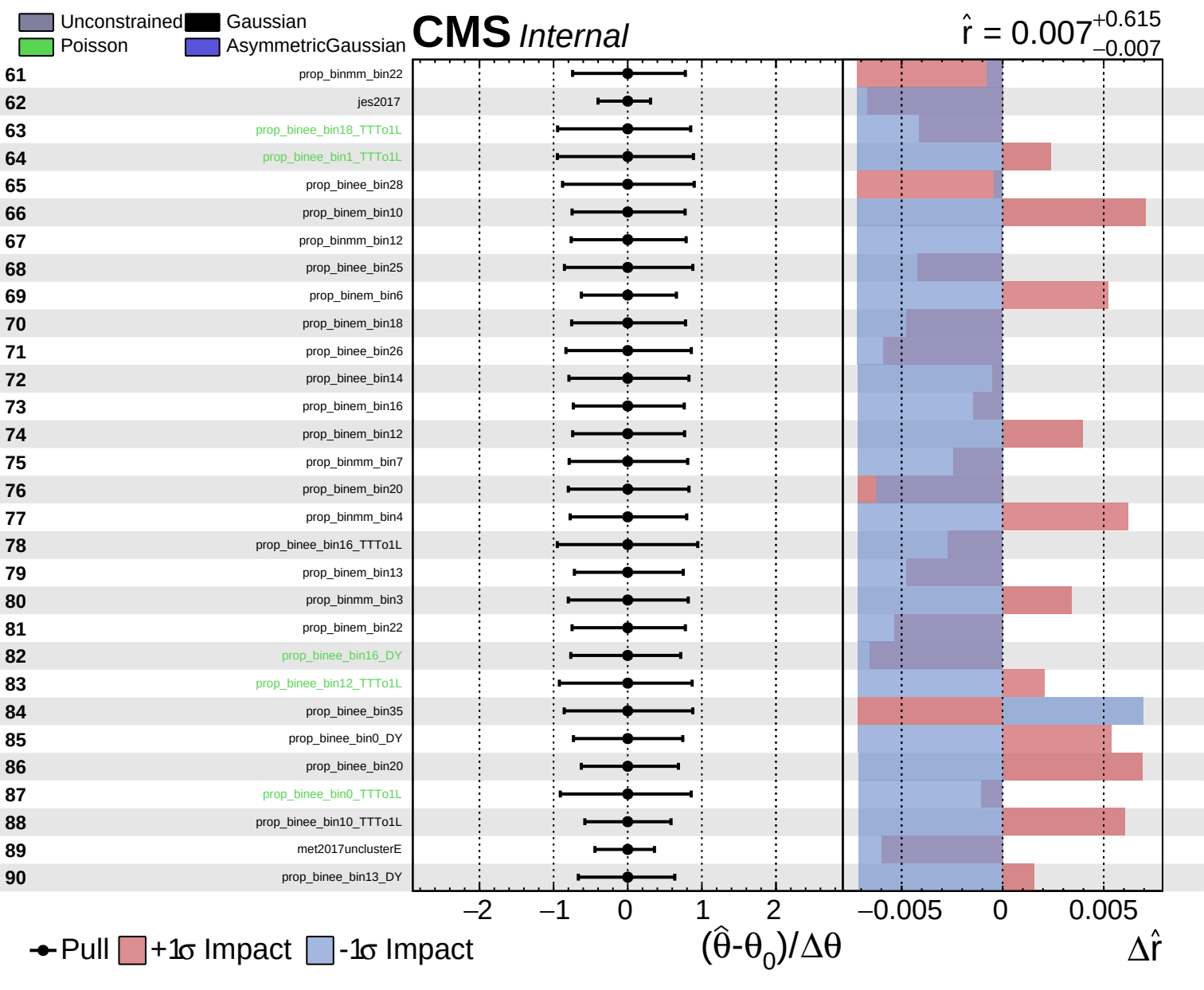
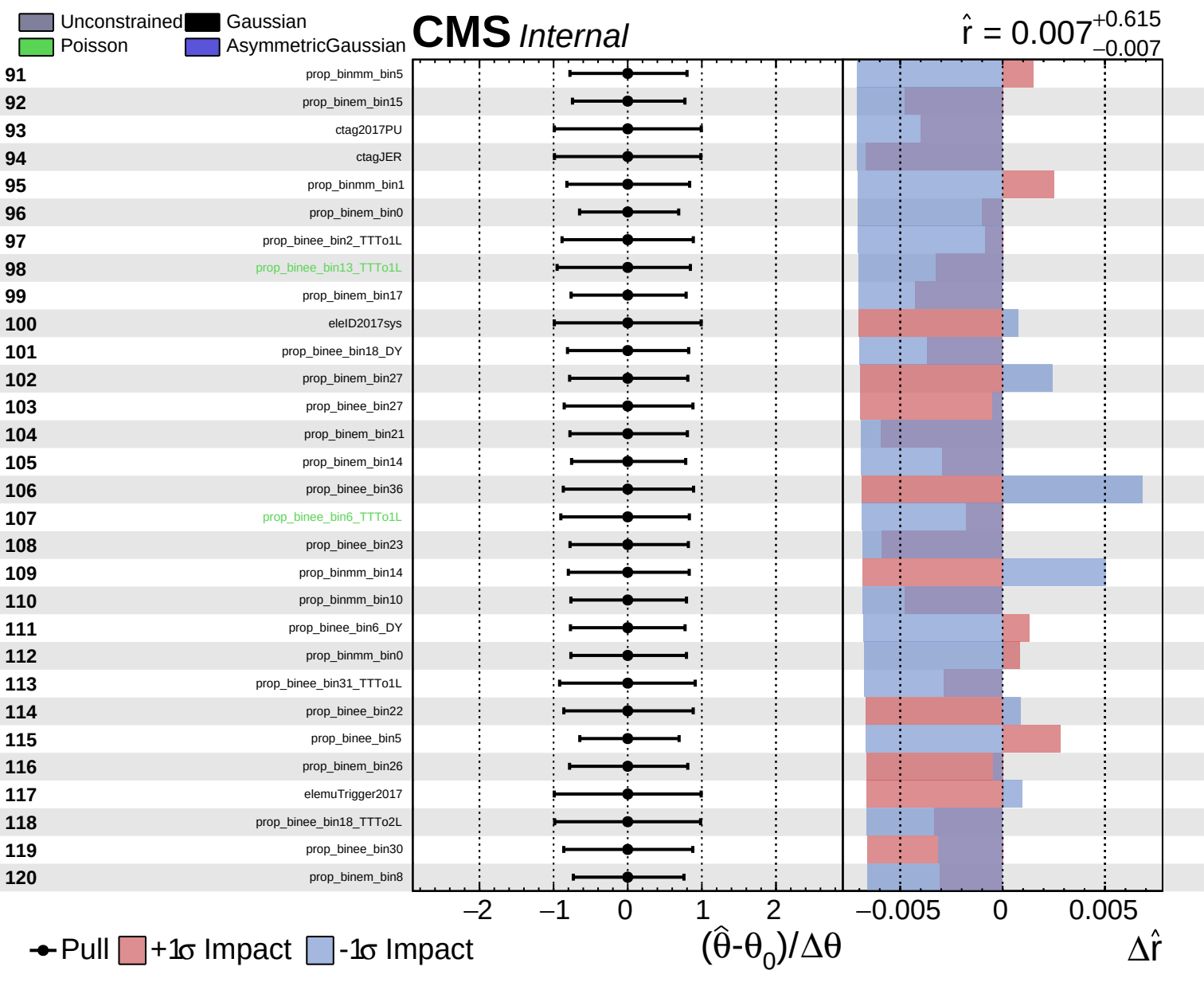
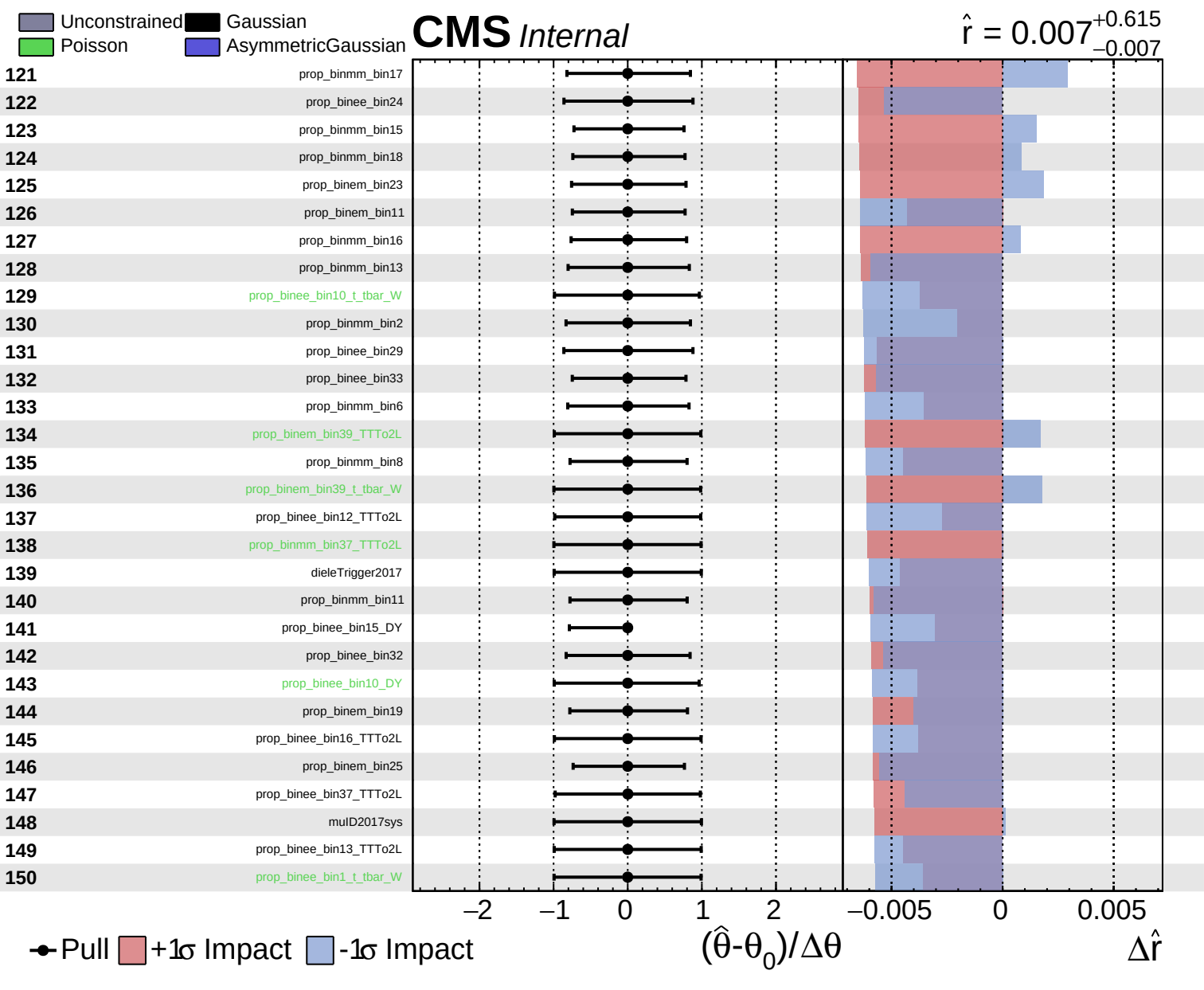
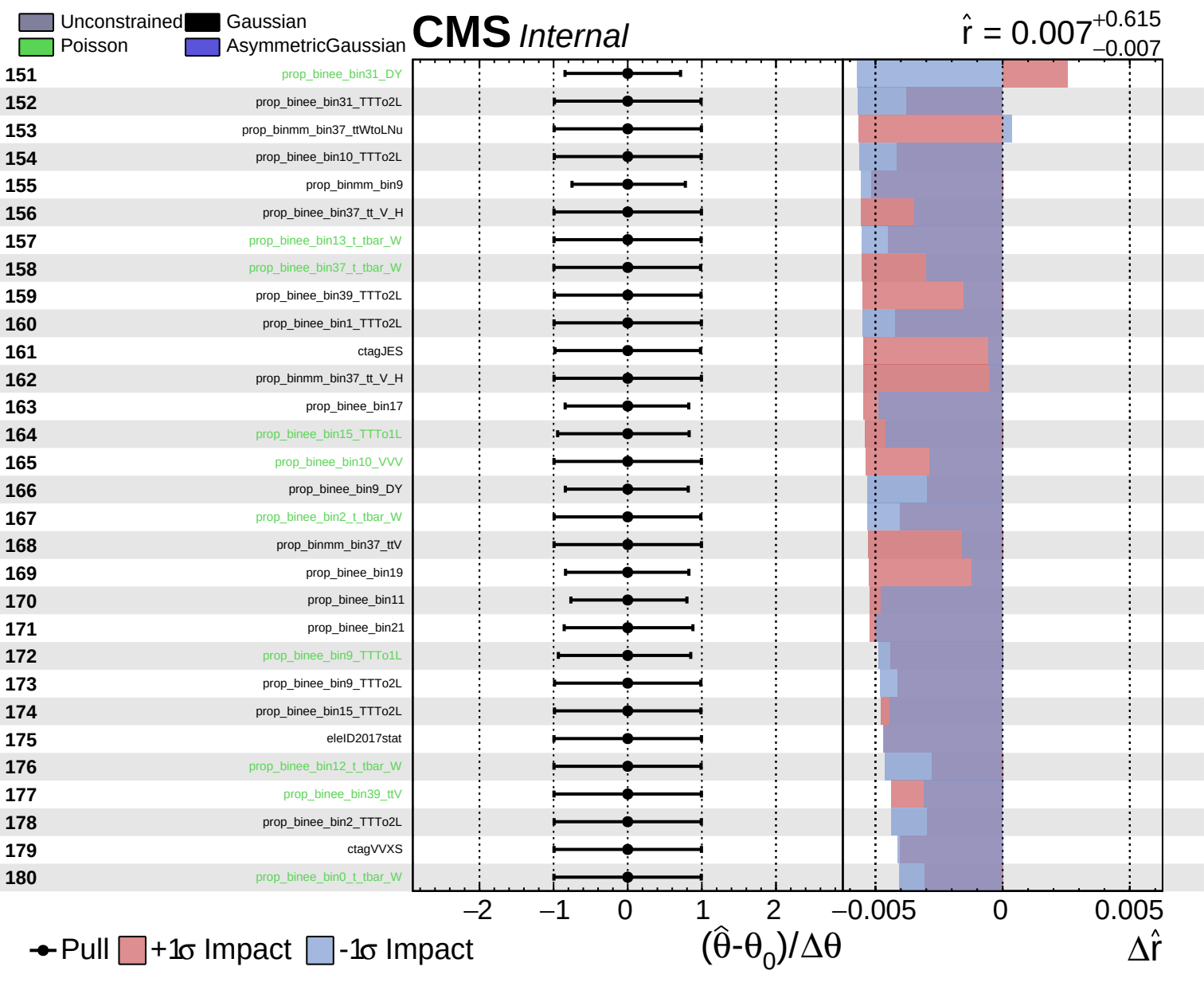

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.007 +0.615 −0.007
1 fake2017
2 ctag2017stat
3 prop_binmm_bin37_TTTo1L
4 prop_binmm_bin36
5 prop_binmm_bin38
6 prop_binmm_bin35
7 prop_binem_bin38
8 prop_binem_bin37
9 lumi2017
10 ctag2017LHEmuF
11 prop_binem_bin39_TTTo1L
12 prop_binmm_bin34
13 prop_binmm_bin30
14 prop_binee_bin39_TTTo1L
15 prop_binmm_bin31
16 prop_binmm_bin32
17 prop_binem_bin36
18 ctag2017PSFSR
19 chargeflip2017
20 prop_binem_bin35
21 prop_binmm_bin27
22 prop_binmm_bin28
23 prop_binmm_bin33
24 prop_binmm_bin26
25 prop_binmm_bin39
26 dimuTrigger2017
27 prop_binmm_bin29
28 prop_binee_bin8
29 prop_binmm_bin21
30 prop_binem_bin34
−2 −1 0 1 2
−0.1 0 0.1
Pull +1σ Impact -1σ Impact
(θ̂-θ0)/Δθ
Δr̂

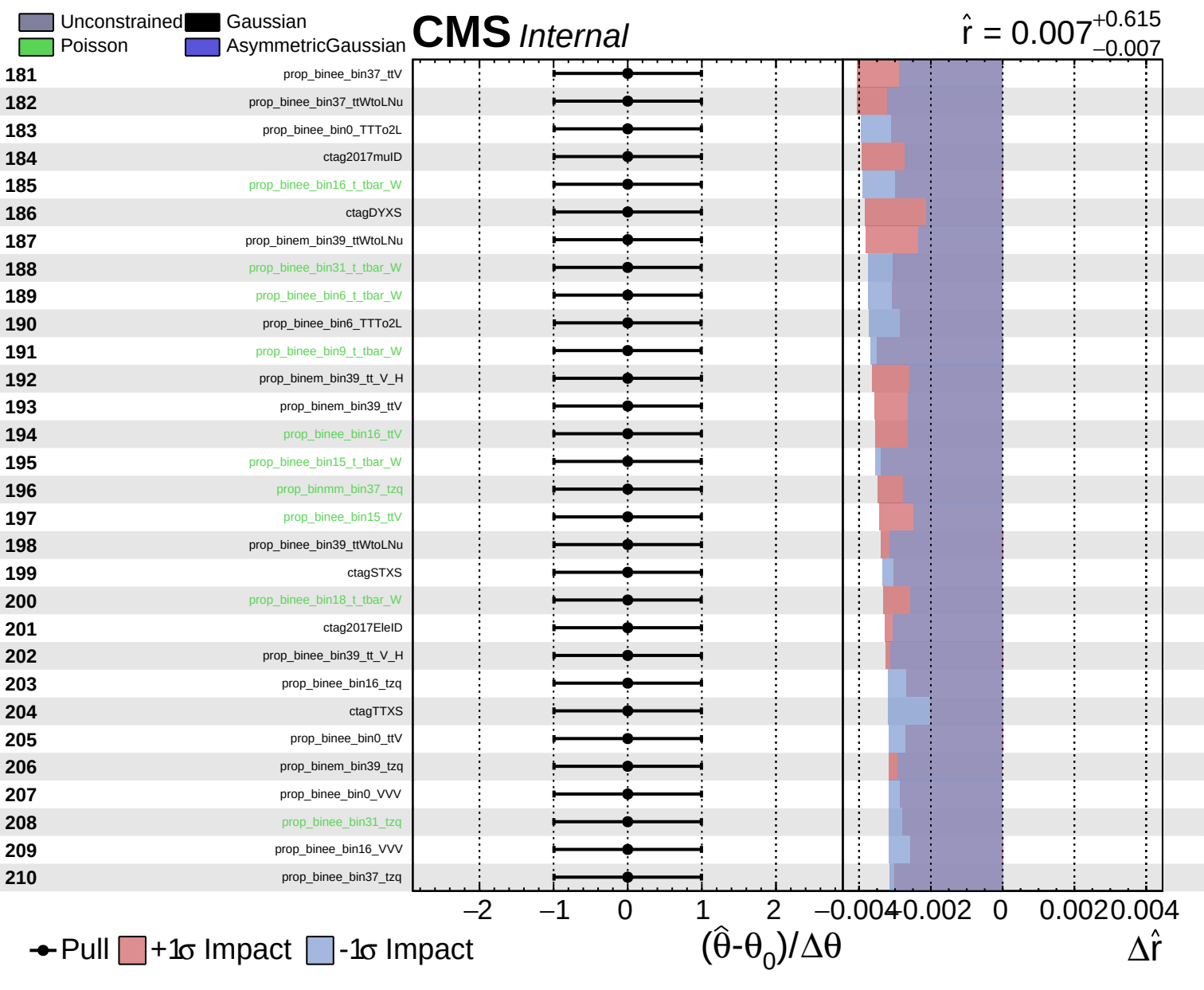

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.007 +0.615 −0.007
31 prop_binem_bin32
32 prop_binem_bin5
33 prop_binmm_bin25
34 prop_binem_bin1
35 prop_binee_bin38
36 prop_binem_bin30
37 prop_binee_bin1_DY
38 prop_binmm_bin24
39 prop_binem_bin2
40 prop_binem_bin33
41 prop_binee_bin4
42 prop_binem_bin3
43 prop_binem_bin4
44 prop_binem_bin29
45 prop_binem_bin31
46 prop_binee_bin7
47 prop_binee_bin37_TTTo1L
48 prop_binee_bin12_DY
49 prop_binee_bin34
50 prop_binmm_bin19
51 prop_binem_bin28
52 jer2017
53 prop_binem_bin7
54 prop_binee_bin3
55 prop_binem_bin9
56 prop_binee_bin2_DY
57 prop_binmm_bin20
58 prop_binem_bin24
59 prop_binmm_bin23
60 ctag2017LHEmuR
−2 −1 0 1 2
−0.02 −0.01 0 0.01 0.02
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂

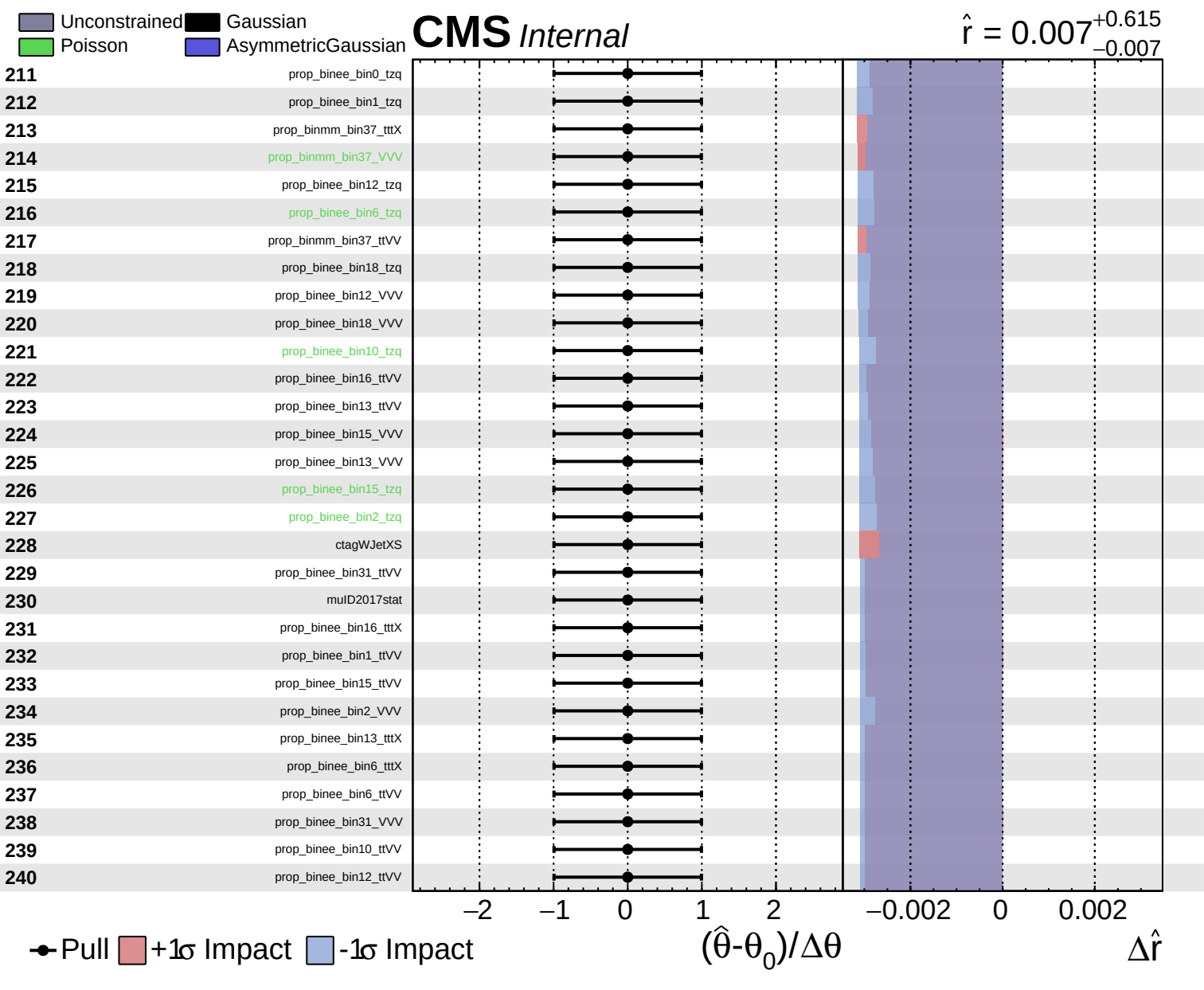

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.007 +0.615 −0.007
61 prop_binmm_bin22
62 jes2017
63 prop_binee_bin18_TTTo1L
64 prop_binee_bin1_TTTo1L
65 prop_binee_bin28
66 prop_binem_bin10
67 prop_binmm_bin12
68 prop_binee_bin25
69 prop_binem_bin6
70 prop_binem_bin18
71 prop_binee_bin26
72 prop_binee_bin14
73 prop_binem_bin16
74 prop_binem_bin12
75 prop_binmm_bin7
76 prop_binem_bin20
77 prop_binmm_bin4
78 prop_binee_bin16_TTTo1L
79 prop_binem_bin13
80 prop_binmm_bin3
81 prop_binem_bin22
82 prop_binee_bin16_DY
83 prop_binee_bin12_TTTo1L
84 prop_binee_bin35
85 prop_binee_bin0_DY
86 prop_binee_bin20
87 prop_binee_bin0_TTTo1L
88 prop_binee_bin10_TTTo1L
89 met2017unclusterE
90 prop_binee_bin13_DY
−2 −1 0 1 2
−0.005 0 0.005
Pull +1σ Impact -1σ Impact
(θ̂-θ0)/Δθ
Δr̂

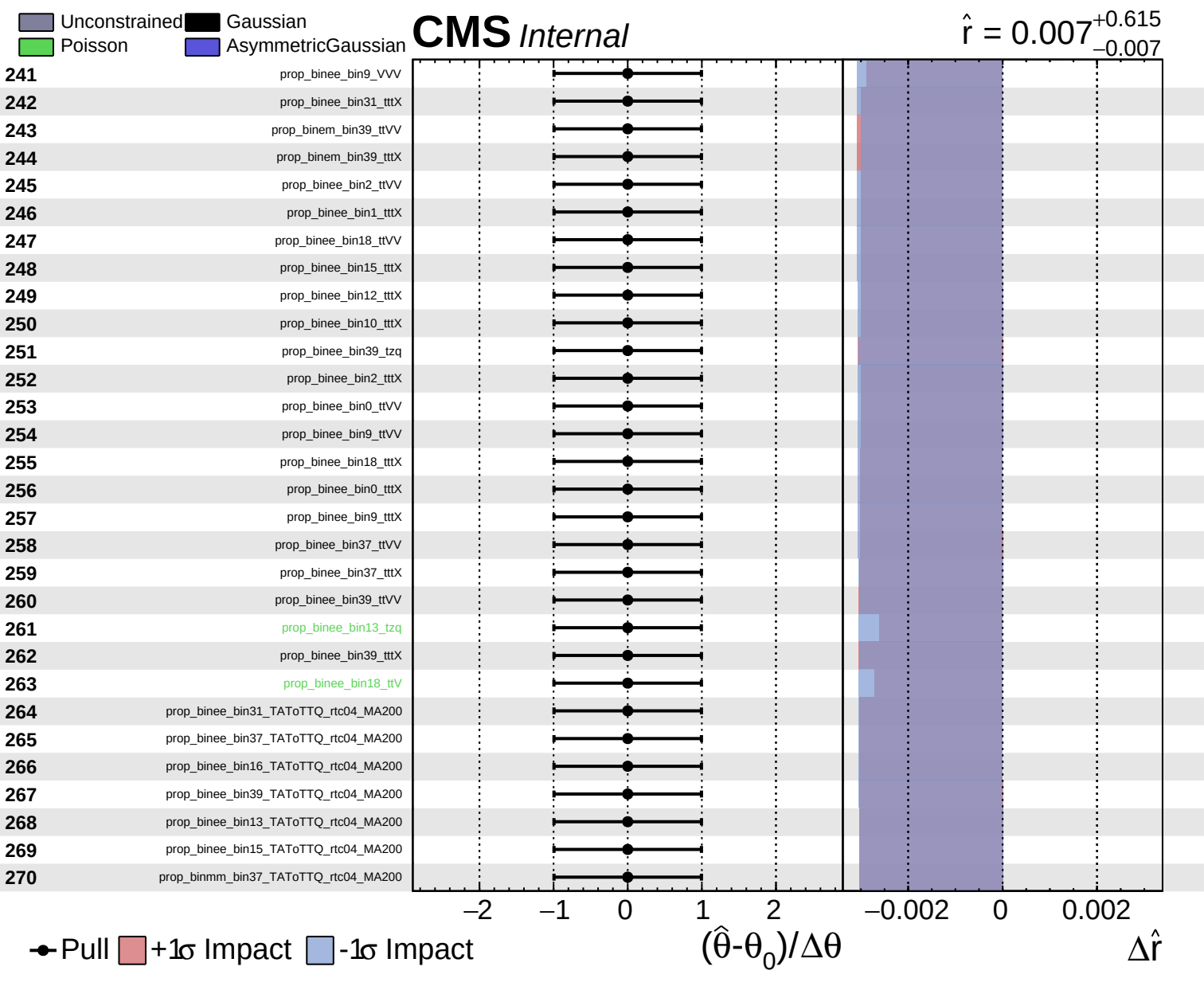

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.007 +0.615 −0.007
91 prop_binmm_bin5
92 prop_binem_bin15
93 ctag2017PU
94 ctagJER
95 prop_binmm_bin1
96 prop_binem_bin0
97 prop_binee_bin2_TTTo1L
98 prop_binee_bin13_TTTo1L
99 prop_binem_bin17
100 eleID2017sys
101 prop_binee_bin18_DY
102 prop_binem_bin27
103 prop_binee_bin27
104 prop_binem_bin21
105 prop_binem_bin14
106 prop_binee_bin36
107 prop_binee_bin6_TTTo1L
108 prop_binee_bin23
109 prop_binmm_bin14
110 prop_binmm_bin10
111 prop_binee_bin6_DY
112 prop_binmm_bin0
113 prop_binee_bin31_TTTo1L
114 prop_binee_bin22
115 prop_binee_bin5
116 prop_binem_bin26
117 elemuTrigger2017
118 prop_binee_bin18_TTTo2L
119 prop_binee_bin30
120 prop_binem_bin8
−2 −1 0 1 2
−0.005 0 0.005
Pull +1σ Impact -1σ Impact
(θ̂-θ0)/Δθ
Δr̂

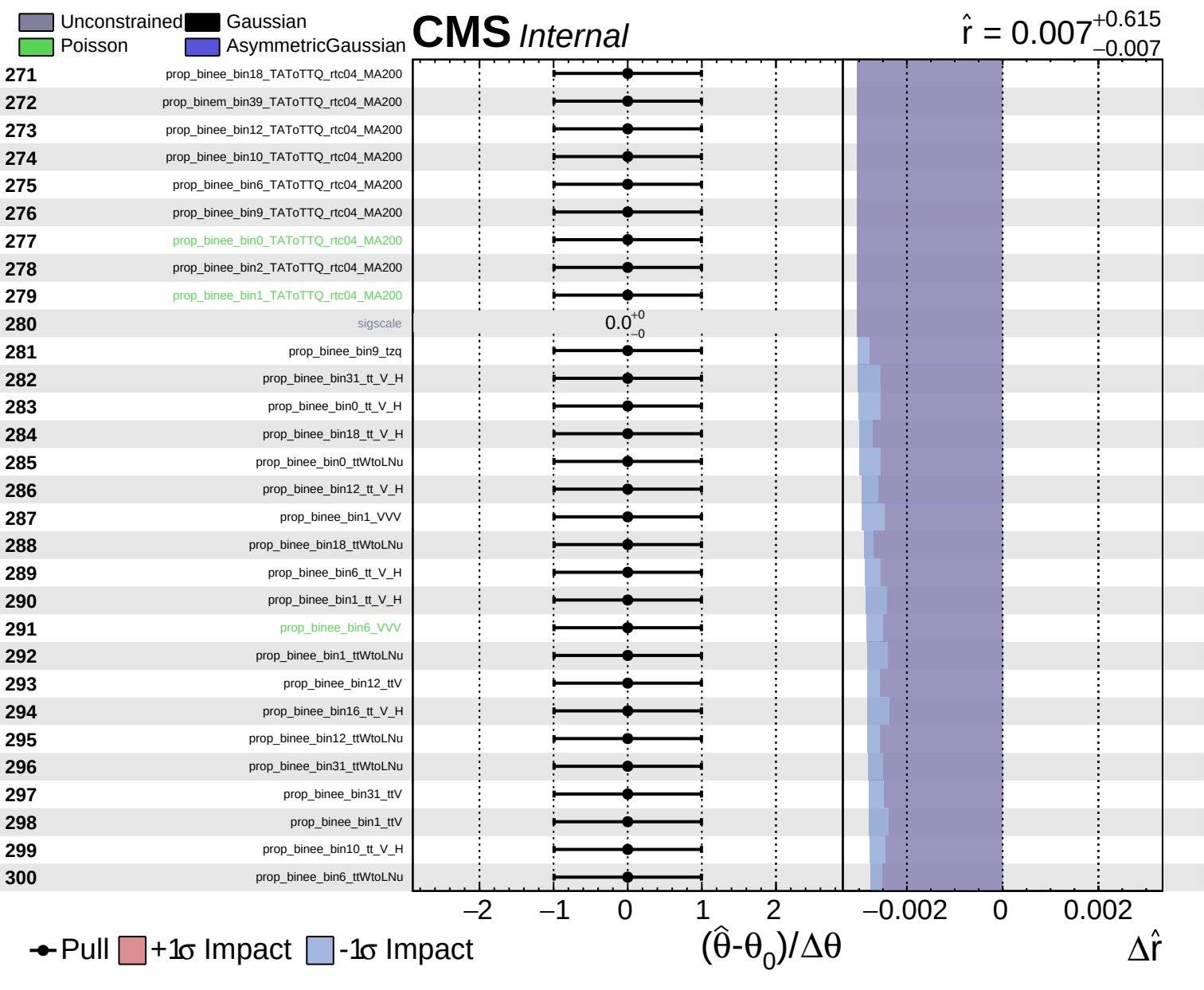

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.007 +0.615 −0.007
121 prop_binmm_bin17
122 prop_binee_bin24
123 prop_binmm_bin15
124 prop_binmm_bin18
125 prop_binem_bin23
126 prop_binem_bin11
127 prop_binmm_bin16
128 prop_binmm_bin13
129 prop_binee_bin10_t_tbar_W
130 prop_binmm_bin2
131 prop_binee_bin29
132 prop_binee_bin33
133 prop_binmm_bin6
134 prop_binem_bin39_TTTo2L
135 prop_binmm_bin8
136 prop_binem_bin39_t_tbar_W
137 prop_binee_bin12_TTTo2L
138 prop_binmm_bin37_TTTo2L
139 dieleTrigger2017
140 prop_binmm_bin11
141 prop_binee_bin15_DY
142 prop_binee_bin32
143 prop_binee_bin10_DY
144 prop_binem_bin19
145 prop_binee_bin16_TTTo2L
146 prop_binem_bin25
147 prop_binee_bin37_TTTo2L
148 muID2017sys
149 prop_binee_bin13_TTTo2L
150 prop_binee_bin1_t_tbar_W
−2
−1
0
1
2
−0.005
0
0.005
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂

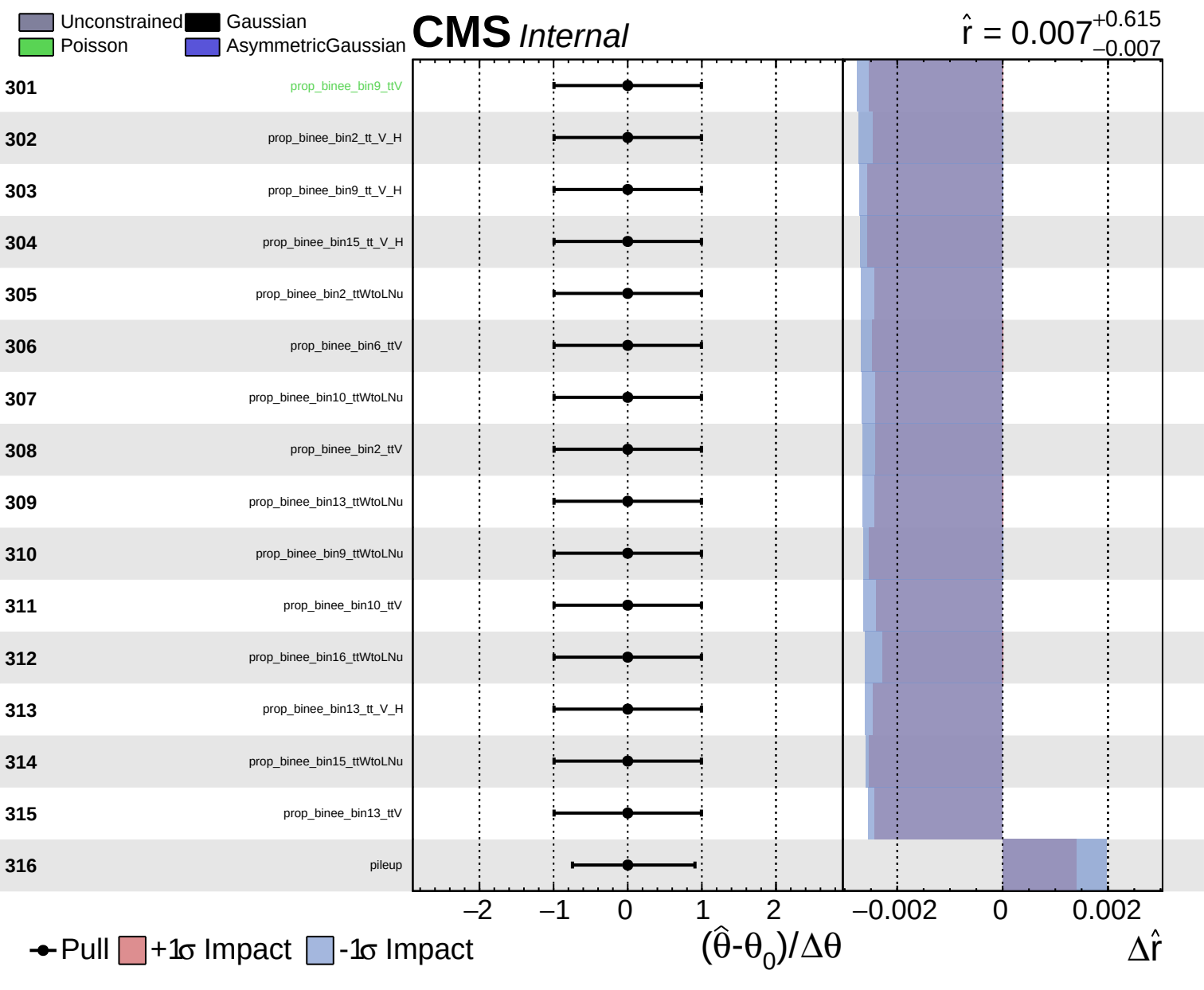

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.007 +0.615 −0.007
151 prop_binee_bin31_DY
152 prop_binee_bin31_TTTo2L
153 prop_binmm_bin37_ttWtoLNu
154 prop_binee_bin10_TTTo2L
155 prop_binmm_bin9
156 prop_binee_bin37_tt_V_H
157 prop_binee_bin13_t_tbar_W
158 prop_binee_bin37_t_tbar_W
159 prop_binee_bin39_TTTo2L
160 prop_binee_bin1_TTTo2L
161 ctagJES
162 prop_binmm_bin37_tt_V_H
163 prop_binee_bin17
164 prop_binee_bin15_TTTo1L
165 prop_binee_bin10_VVV
166 prop_binee_bin9_DY
167 prop_binee_bin2_t_tbar_W
168 prop_binmm_bin37_ttV
169 prop_binee_bin19
170 prop_binee_bin11
171 prop_binee_bin21
172 prop_binee_bin9_TTTo1L
173 prop_binee_bin9_TTTo2L
174 prop_binee_bin15_TTTo2L
175 eleID2017stat
176 prop_binee_bin12_t_tbar_W
177 prop_binee_bin39_ttV
178 prop_binee_bin2_TTTo2L
179 ctagVVXS
180 prop_binee_bin0_t_tbar_W
−2 −1 0 1 2
−0.005 0 0.005
Pull +1σ Impact -1σ Impact
(θ̂-θ0)/Δθ
Δr̂


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 0.007 +0.615 −0.007
181 prop_binee_bin37_ttV
182 prop_binee_bin37_ttWtoLNu
183 prop_binee_bin0_TTTo2L
184 ctag2017muID
185 prop_binee_bin16_t_tbar_W
186 ctagDYXS
187 prop_binem_bin39_ttWtoLNu
188 prop_binee_bin31_t_tbar_W
189 prop_binee_bin6_t_tbar_W
190 prop_binee_bin6_TTTo2L
191 prop_binee_bin9_t_tbar_W
192 prop_binem_bin39_tt_V_H
193 prop_binem_bin39_ttV
194 prop_binee_bin16_ttV
195 prop_binee_bin15_t_tbar_W
196 prop_binmm_bin37_tzq
197 prop_binee_bin15_ttV
198 prop_binee_bin39_ttWtoLNu
199 ctagSTXS
200 prop_binee_bin18_t_tbar_W
201 ctag2017EleID
202 prop_binee_bin39_tt_V_H
203 prop_binee_bin16_tzq
204 ctagTTXS
205 prop_binee_bin0_ttV
206 prop_binem_bin39_tzq
207 prop_binee_bin0_VVV
208 prop_binee_bin31_tzq
209 prop_binee_bin16_VVV
210 prop_binee_bin37_tzq
−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 = 0.007 +0.615 −0.007
211 prop_binee_bin0_tzq
212 prop_binee_bin1_tzq
213 prop_binmm_bin37_tttX
214 prop_binmm_bin37_VVV
215 prop_binee_bin12_tzq
216 prop_binee_bin6_tzq
217 prop_binmm_bin37_ttVV
218 prop_binee_bin18_tzq
219 prop_binee_bin12_VVV
220 prop_binee_bin18_VVV
221 prop_binee_bin10_tzq
222 prop_binee_bin16_ttVV
223 prop_binee_bin13_ttVV
224 prop_binee_bin15_VVV
225 prop_binee_bin13_VVV
226 prop_binee_bin15_tzq
227 prop_binee_bin2_tzq
228 ctagWJetXS
229 prop_binee_bin31_ttVV
230 muID2017stat
231 prop_binee_bin16_tttX
232 prop_binee_bin1_ttVV
233 prop_binee_bin15_ttVV
234 prop_binee_bin2_VVV
235 prop_binee_bin13_tttX
236 prop_binee_bin6_tttX
237 prop_binee_bin6_ttVV
238 prop_binee_bin31_VVV
239 prop_binee_bin10_ttVV
240 prop_binee_bin12_ttVV
−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 = 0.007 +0.615 −0.007
241 prop_binee_bin9_VVV
242 prop_binee_bin31_tttX
243 prop_binem_bin39_ttVV
244 prop_binem_bin39_tttX
245 prop_binee_bin2_ttVV
246 prop_binee_bin1_tttX
247 prop_binee_bin18_ttVV
248 prop_binee_bin15_tttX
249 prop_binee_bin12_tttX
250 prop_binee_bin10_tttX
251 prop_binee_bin39_tzq
252 prop_binee_bin2_tttX
253 prop_binee_bin0_ttVV
254 prop_binee_bin9_ttVV
255 prop_binee_bin18_tttX
256 prop_binee_bin0_tttX
257 prop_binee_bin9_tttX
258 prop_binee_bin37_ttVV
259 prop_binee_bin37_tttX
260 prop_binee_bin39_ttVV
261 prop_binee_bin13_tzq
262 prop_binee_bin39_tttX
263 prop_binee_bin18_ttV
264 prop_binee_bin31_TAToTTQ_rtc04_MA200
265 prop_binee_bin37_TAToTTQ_rtc04_MA200
266 prop_binee_bin16_TAToTTQ_rtc04_MA200
267 prop_binee_bin39_TAToTTQ_rtc04_MA200
268 prop_binee_bin13_TAToTTQ_rtc04_MA200
269 prop_binee_bin15_TAToTTQ_rtc04_MA200
270 prop_binmm_bin37_TAToTTQ_rtc04_MA200
−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 = 0.007 +0.615 −0.007
271 prop_binee_bin18_TAToTTQ_rtc04_MA200
272 prop_binem_bin39_TAToTTQ_rtc04_MA200
273 prop_binee_bin12_TAToTTQ_rtc04_MA200
274 prop_binee_bin10_TAToTTQ_rtc04_MA200
275 prop_binee_bin6_TAToTTQ_rtc04_MA200
276 prop_binee_bin9_TAToTTQ_rtc04_MA200
277 prop_binee_bin0_TAToTTQ_rtc04_MA200
278 prop_binee_bin2_TAToTTQ_rtc04_MA200
279 prop_binee_bin1_TAToTTQ_rtc04_MA200
280 sigscale
0.0 +0 −0
281 prop_binee_bin9_tzq
282 prop_binee_bin31_tt_V_H
283 prop_binee_bin0_tt_V_H
284 prop_binee_bin18_tt_V_H
285 prop_binee_bin0_ttWtoLNu
286 prop_binee_bin12_tt_V_H
287 prop_binee_bin1_VVV
288 prop_binee_bin18_ttWtoLNu
289 prop_binee_bin6_tt_V_H
290 prop_binee_bin1_tt_V_H
291 prop_binee_bin6_VVV
292 prop_binee_bin1_ttWtoLNu
293 prop_binee_bin12_ttV
294 prop_binee_bin16_tt_V_H
295 prop_binee_bin12_ttWtoLNu
296 prop_binee_bin31_ttWtoLNu
297 prop_binee_bin31_ttV
298 prop_binee_bin1_ttV
299 prop_binee_bin10_tt_V_H
300 prop_binee_bin6_ttWtoLNu
−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 = 0.007 +0.615 −0.007
301 prop_binee_bin9_ttV
302 prop_binee_bin2_tt_V_H
303 prop_binee_bin9_tt_V_H
304 prop_binee_bin15_tt_V_H
305 prop_binee_bin2_ttWtoLNu
306 prop_binee_bin6_ttV
307 prop_binee_bin10_ttWtoLNu
308 prop_binee_bin2_ttV
309 prop_binee_bin13_ttWtoLNu
310 prop_binee_bin9_ttWtoLNu
311 prop_binee_bin10_ttV
312 prop_binee_bin16_ttWtoLNu
313 prop_binee_bin13_tt_V_H
314 prop_binee_bin15_ttWtoLNu
315 prop_binee_bin13_ttV
316 pileup
−2 −1 0 1 2
−0.002 0 0.002
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂