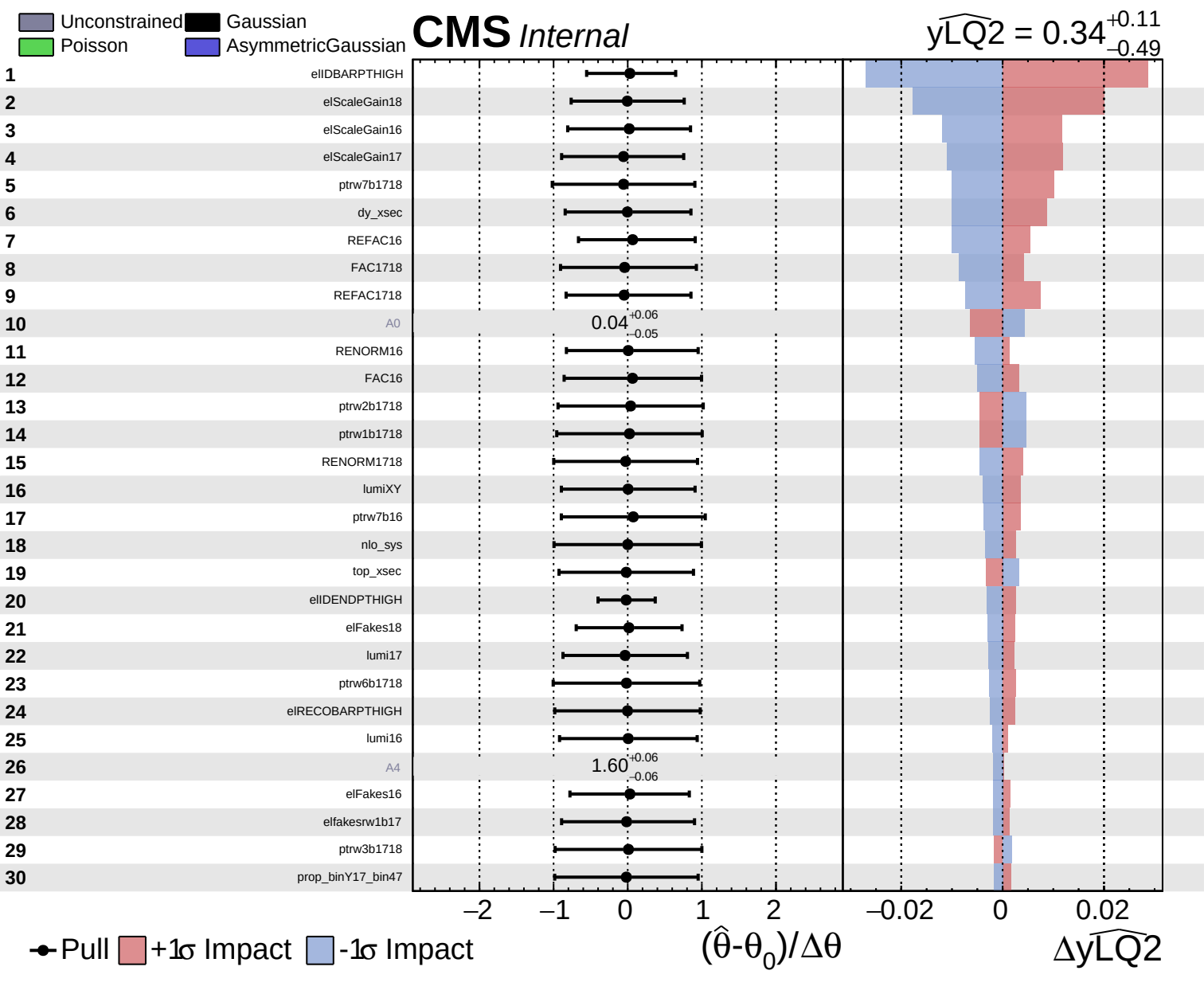
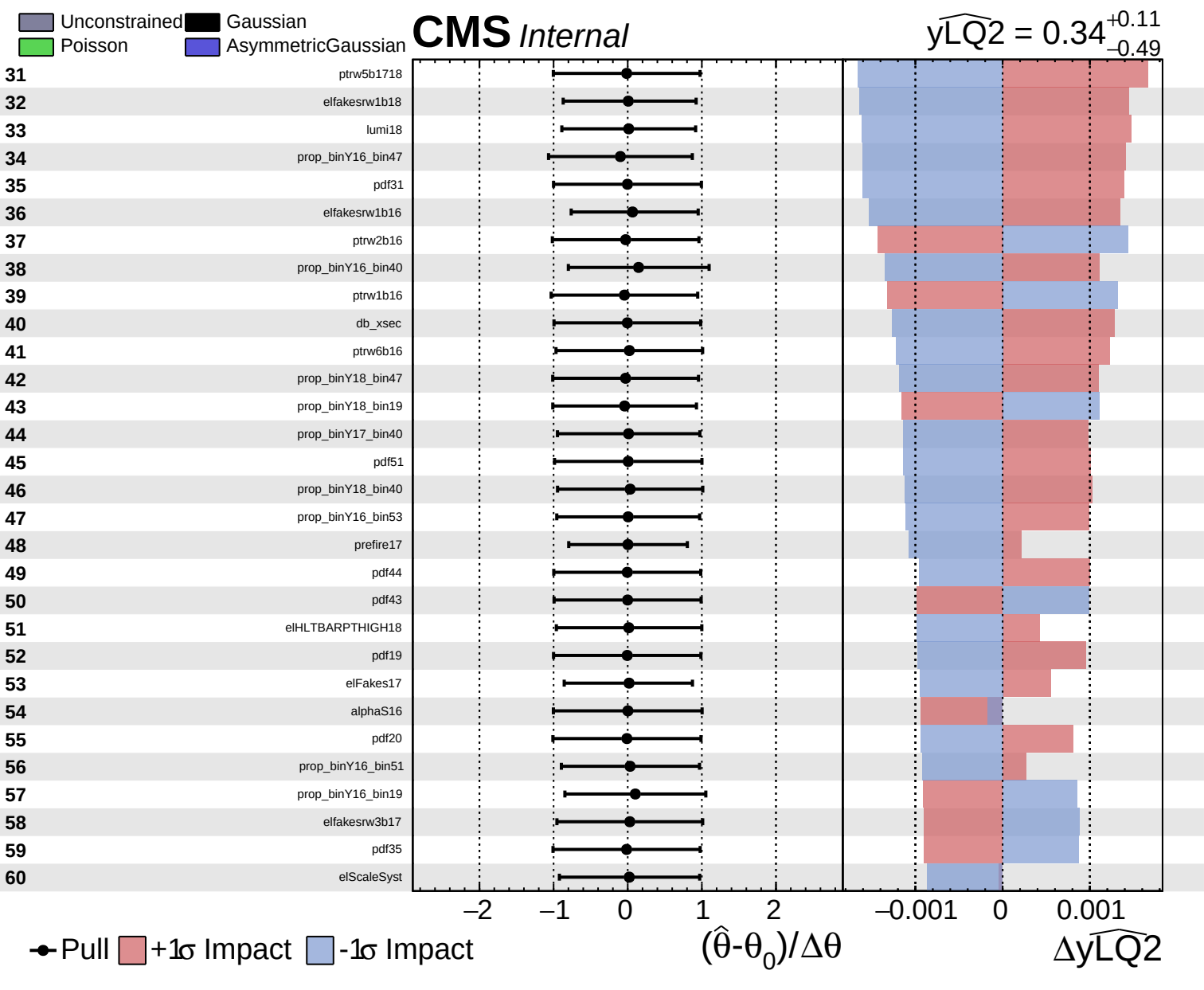

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
$\widehat{yLQ2} = 0.34^{+0.11}_{-0.49}$
1 elIDBARPTHIGH
2 elScaleGain18
3 elScaleGain16
4 elScaleGain17
5 ptrw7b1718
6 dy_xsec
7 REFAC16
8 FAC1718
9 REFAC1718
10 A0
$0.04^{+0.06}_{-0.05}$
11 RENORM16
12 FAC16
13 ptrw2b1718
14 ptrw1b1718
15 RENORM1718
16 lumiXY
17 ptrw7b16
18 nlo_sys
19 top_xsec
20 elIDENDPTHIGH
21 elFakes18
22 lumi17
23 ptrw6b1718
24 elRECOBARPTHIGH
25 lumi16
26 A4
$1.60^{+0.06}_{-0.06}$
27 elFakes16
28 elfakesrw1b17
29 ptrw3b1718
30 prop_binY17_bin47
−2 −1 0 1 2
−0.02 0 0.02
Pull
+1σ Impact
-1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
ŷLQ2 = 0.34 +0.11 −0.49
31 ptrw5b1718
32 elfakesrw1b18
33 lumi18
34 prop_binY16_bin47
35 pdf31
36 elfakesrw1b16
37 ptrw2b16
38 prop_binY16_bin40
39 ptrw1b16
40 db_xsec
41 ptrw6b16
42 prop_binY18_bin47
43 prop_binY18_bin19
44 prop_binY17_bin40
45 pdf51
46 prop_binY18_bin40
47 prop_binY16_bin53
48 prefire17
49 pdf44
50 pdf43
51 elHLTBARPTHIGH18
52 pdf19
53 elFakes17
54 alphaS16
55 pdf20
56 prop_binY16_bin51
57 prop_binY16_bin19
58 elfakesrw3b17
59 pdf35
60 elScaleSyst
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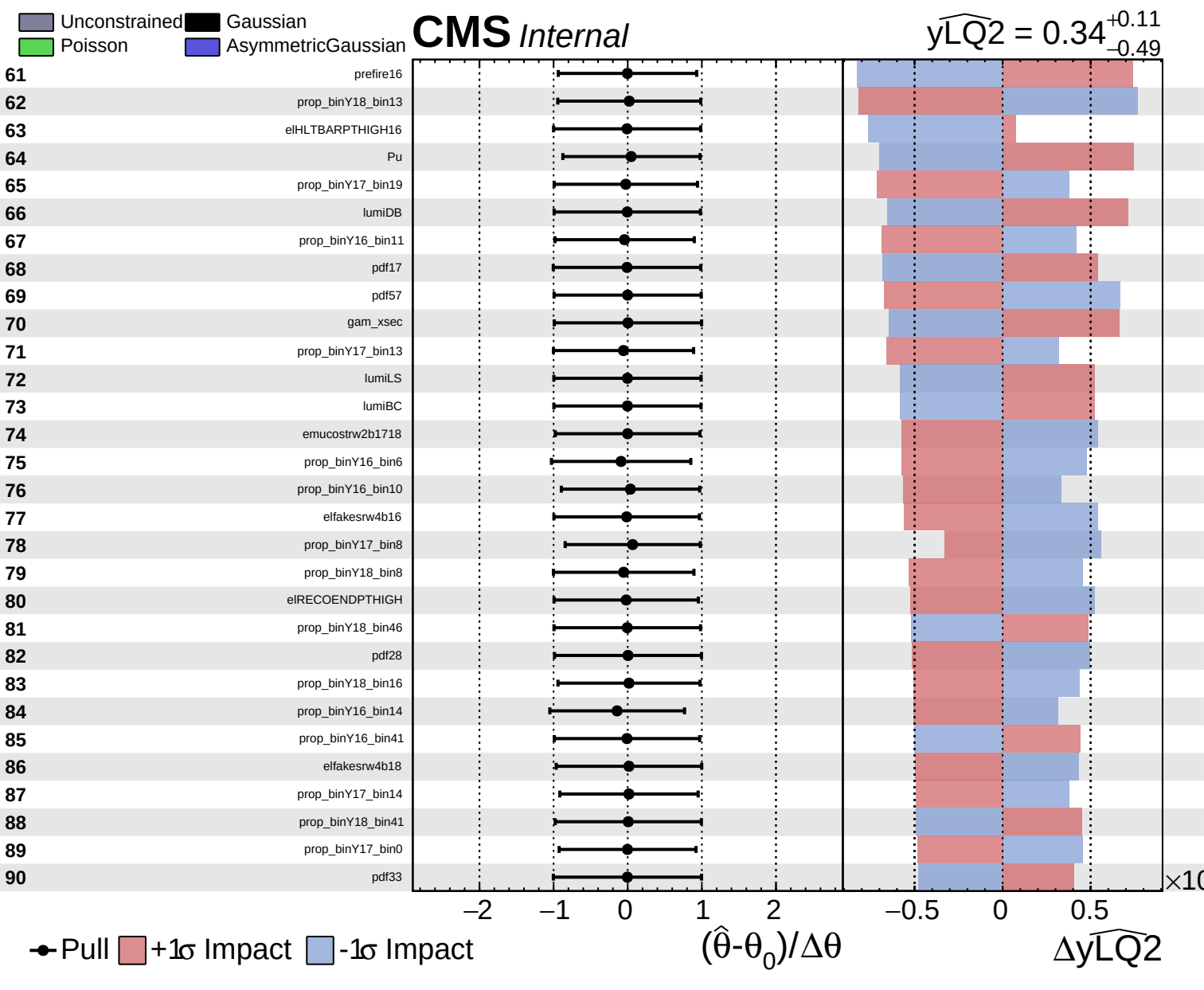
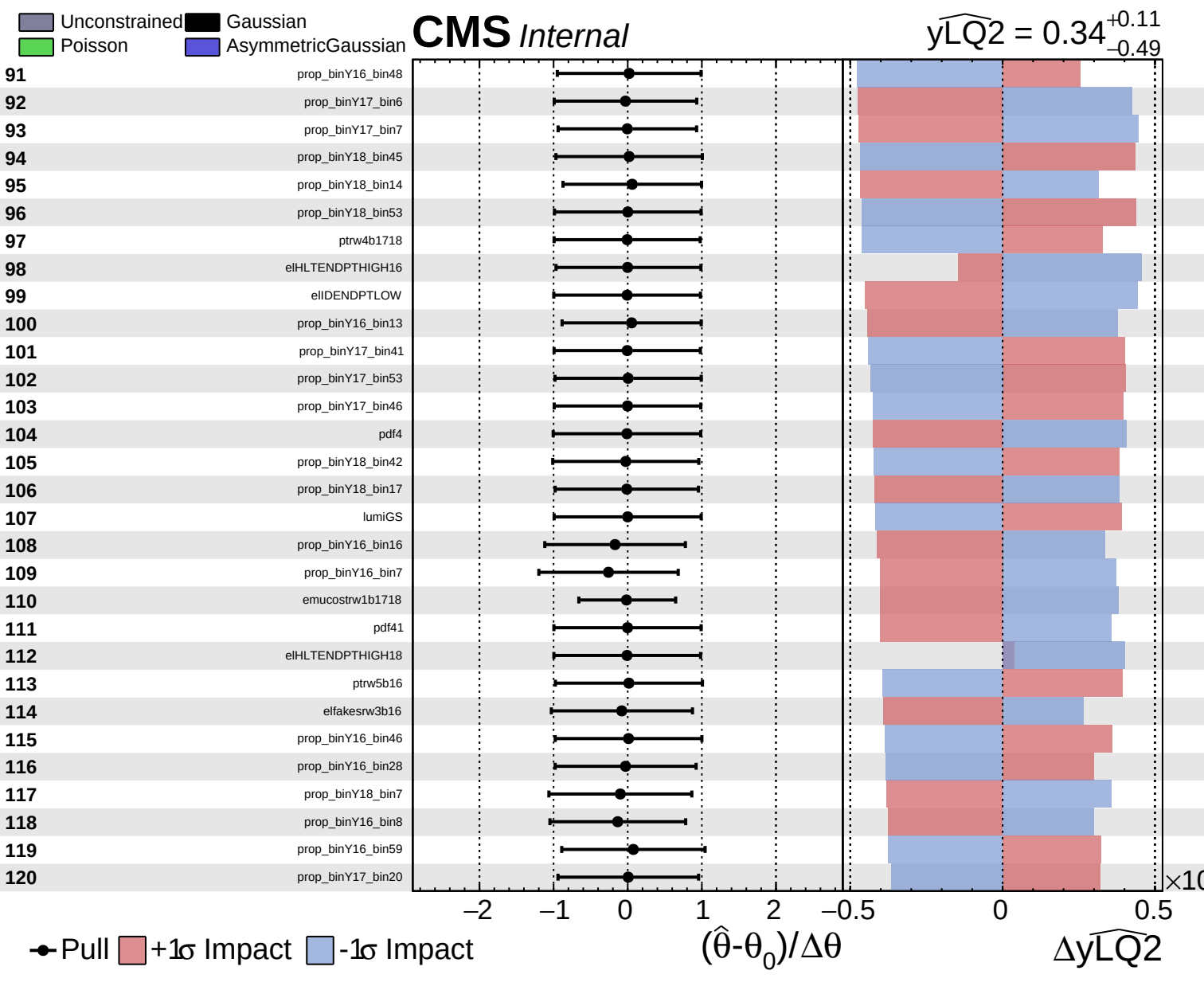
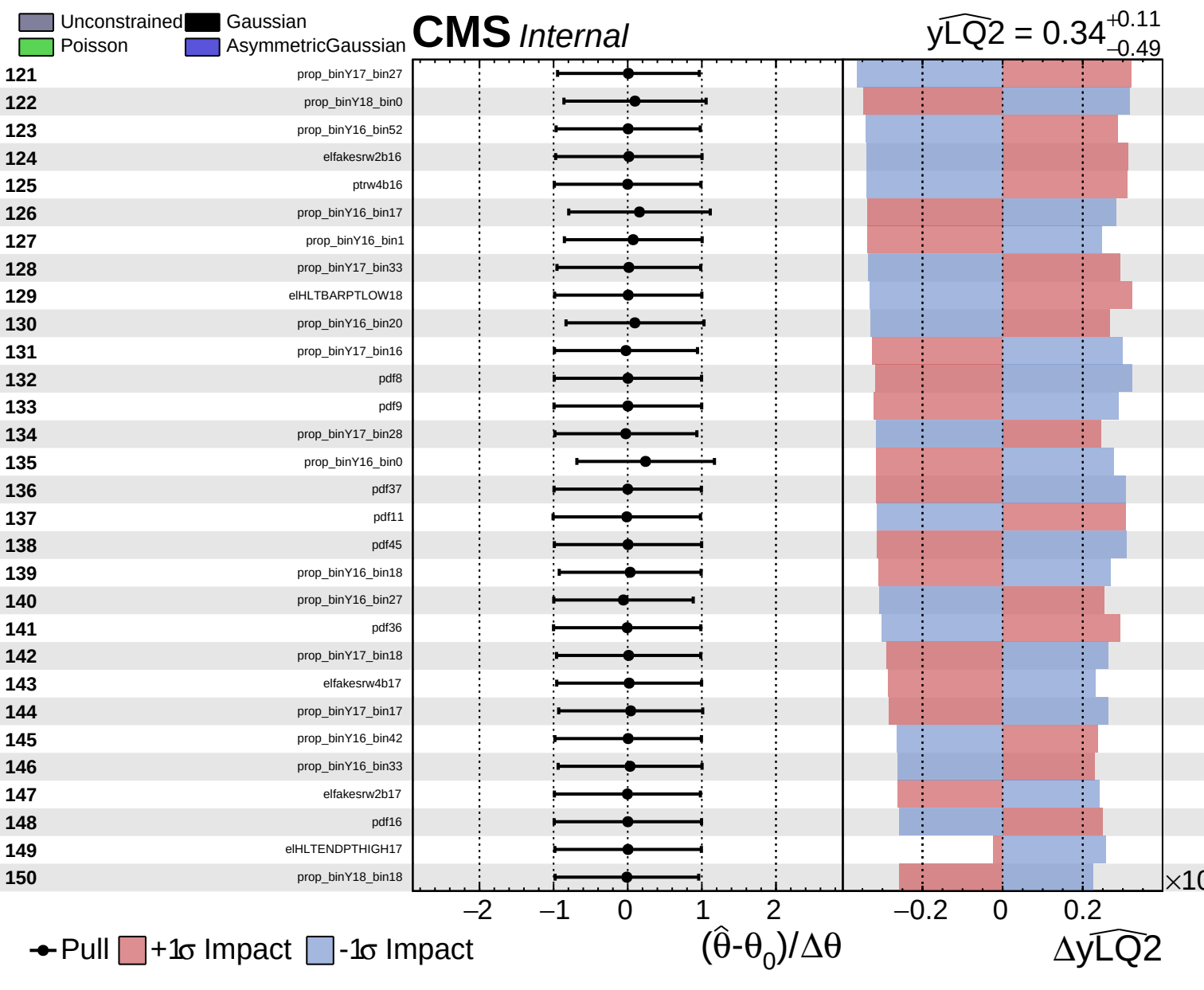
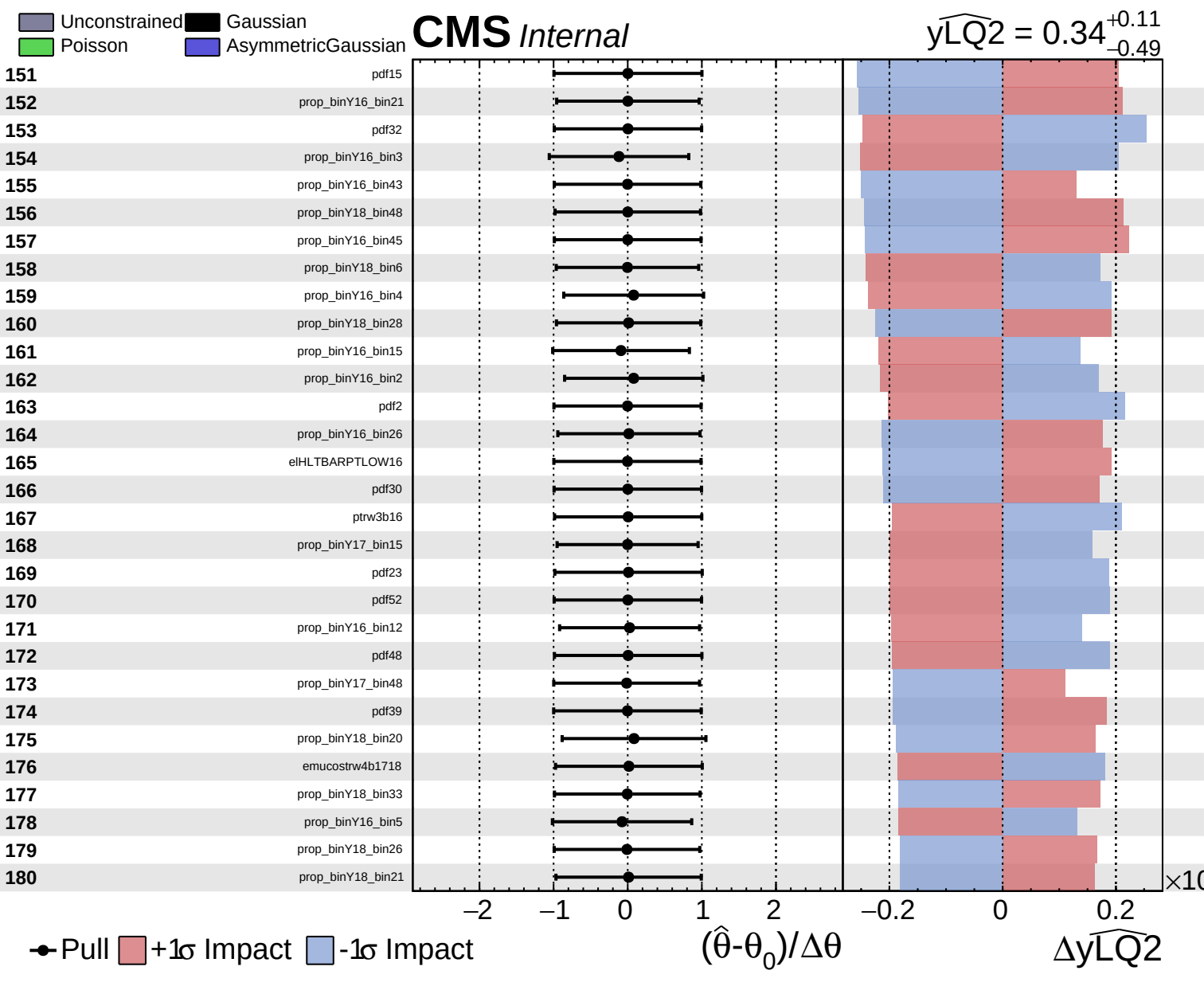
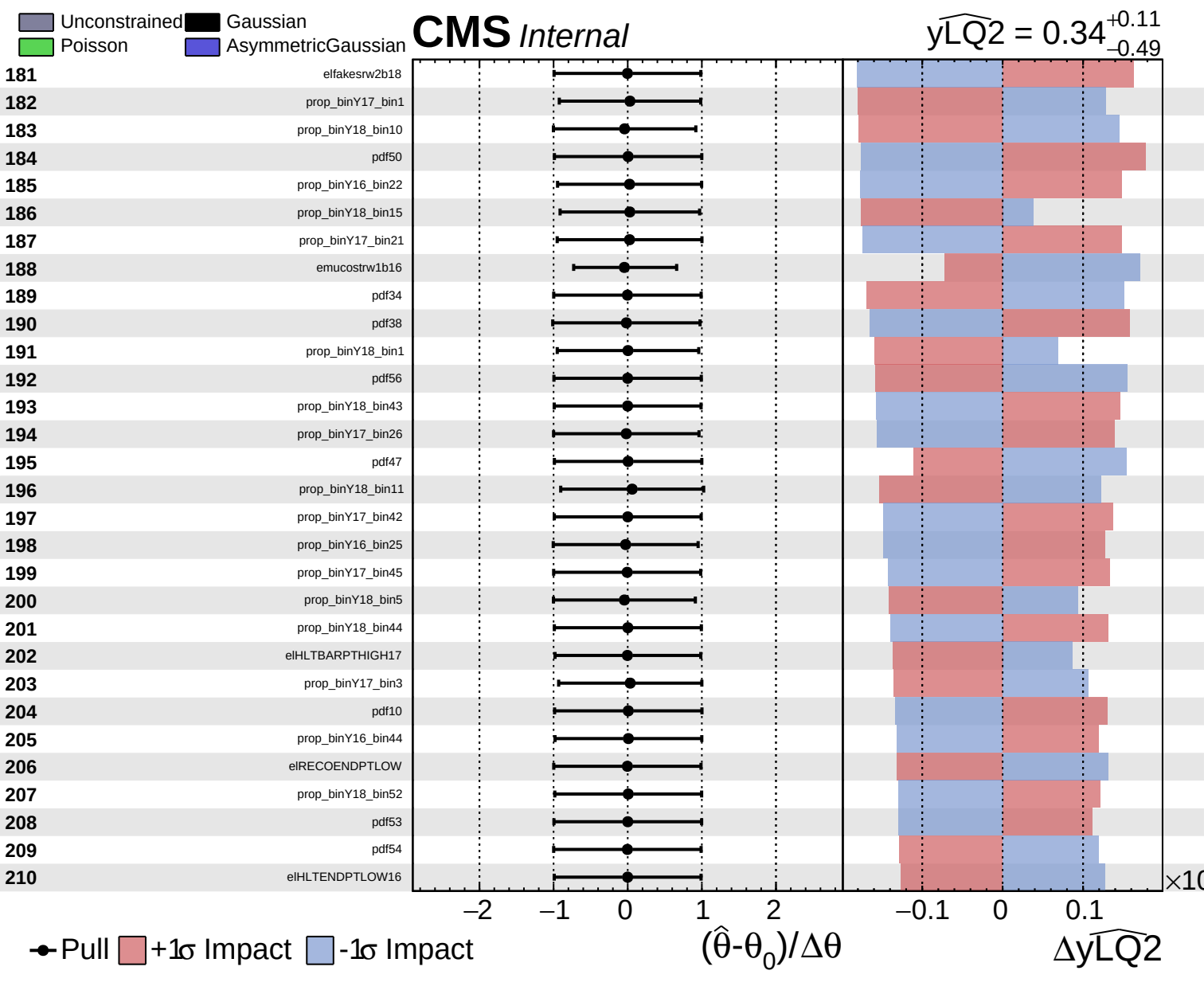
−0.001 0 0.001
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
ΔŷLQ2

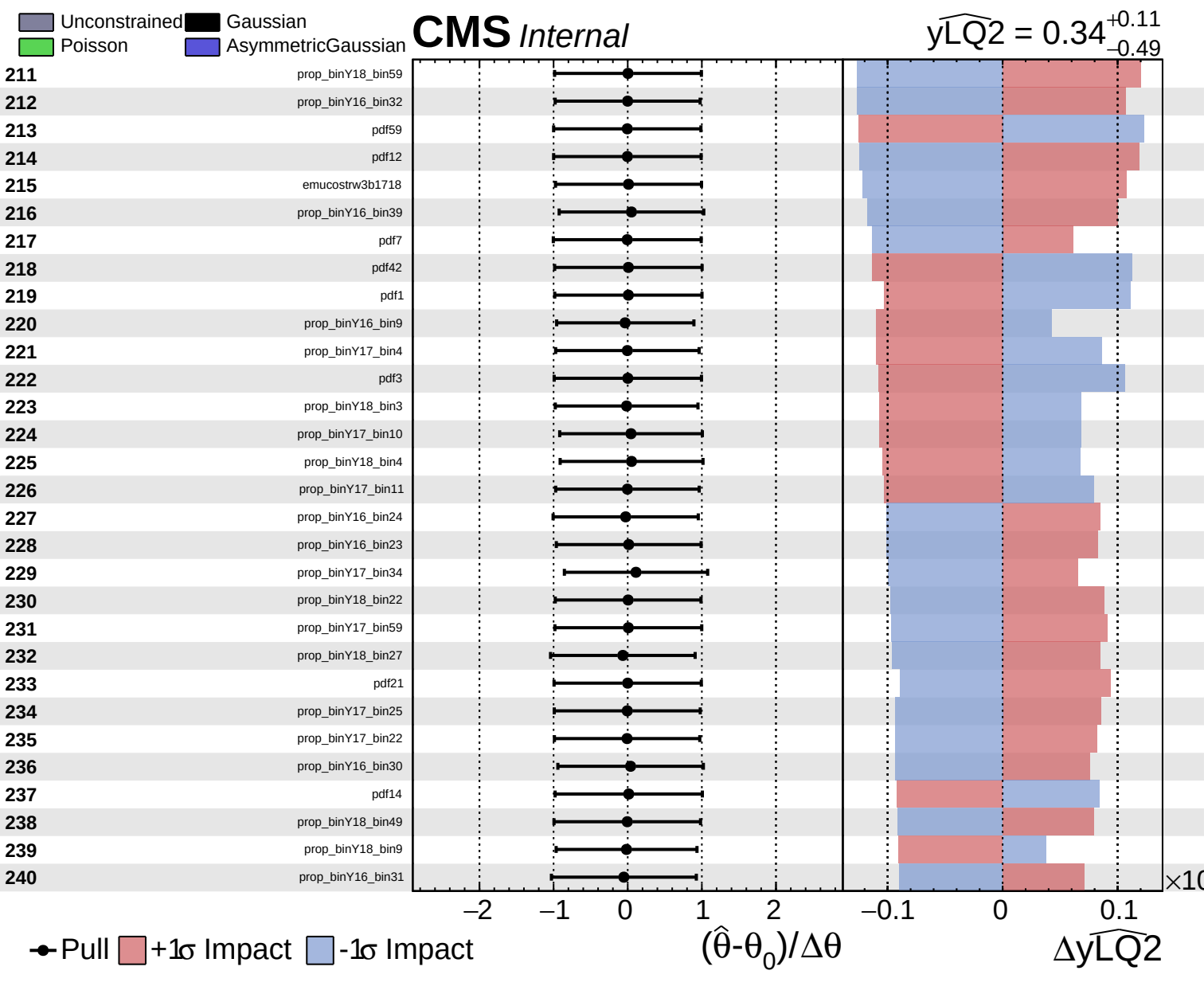

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
$\widehat{yLQ2} = 0.34^{+0.11}_{-0.49}$
61 prefire16
62 prop_binY18_bin13
63 elHLTBARPTHIGH16
64 Pu
65 prop_binY17_bin19
66 lumiDB
67 prop_binY16_bin11
68 pdf17
69 pdf57
70 gam_xsec
71 prop_binY17_bin13
72 lumiLS
73 lumiBC
74 emucostrw2b1718
75 prop_binY16_bin6
76 prop_binY16_bin10
77 elfakesrw4b16
78 prop_binY17_bin8
79 prop_binY18_bin8
80 elRECOENDPTHIGH
81 prop_binY18_bin46
82 pdf28
83 prop_binY18_bin16
84 prop_binY16_bin14
85 prop_binY16_bin41
86 elfakesrw4b18
87 prop_binY17_bin14
88 prop_binY18_bin41
89 prop_binY17_bin0
90 pdf33
×10
−2 −1 0 1 2
−0.5 0 0.5
Pull
+1σ Impact
-1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$

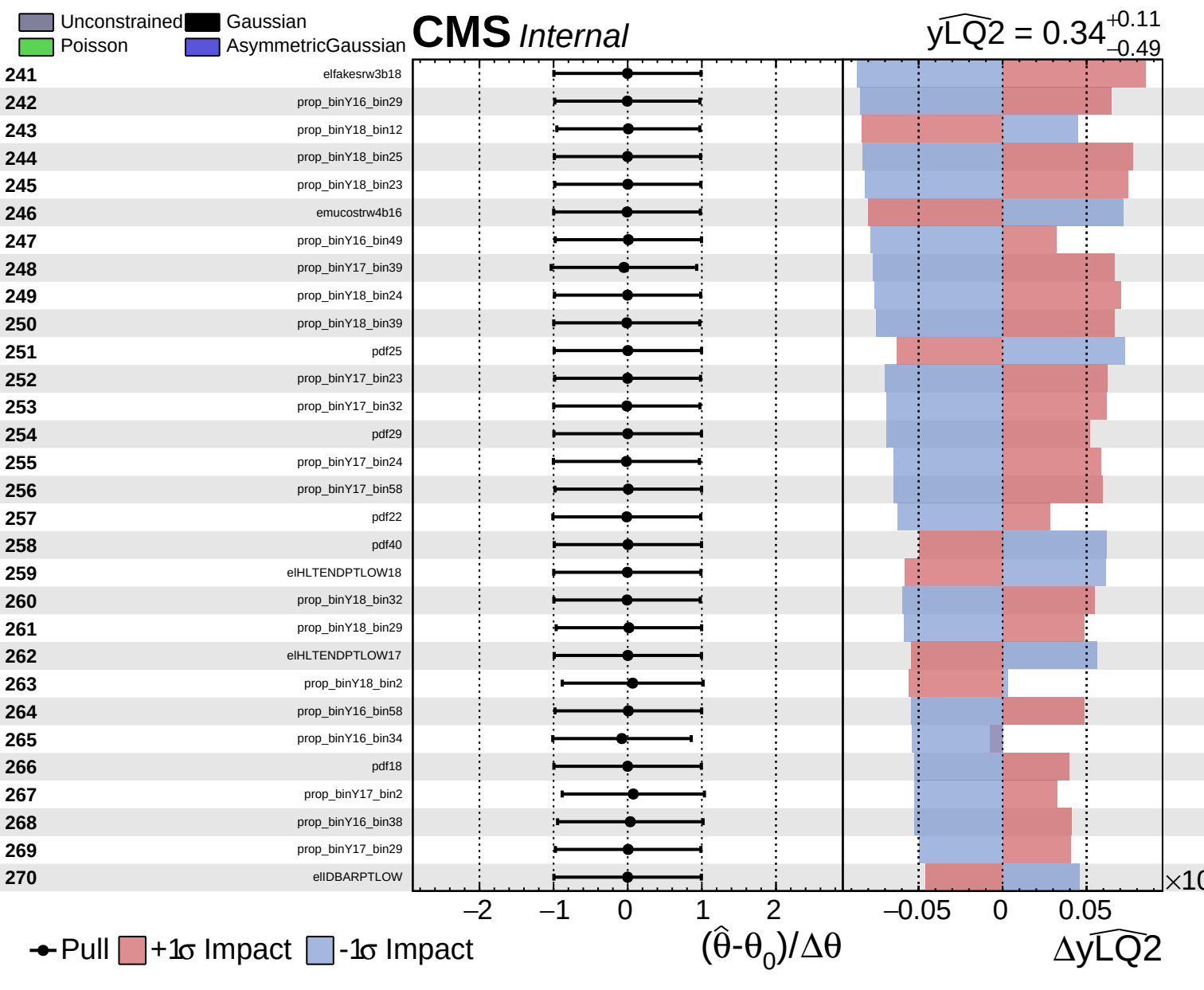

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
ŷLQ2 = 0.34 +0.11 −0.49
91 prop_binY16_bin48
92 prop_binY17_bin6
93 prop_binY17_bin7
94 prop_binY18_bin45
95 prop_binY18_bin14
96 prop_binY18_bin53
97 ptrw4b1718
98 elHLTENDPTHIGH16
99 elIDENDPTLOW
100 prop_binY16_bin13
101 prop_binY17_bin41
102 prop_binY17_bin53
103 prop_binY17_bin46
104 pdf4
105 prop_binY18_bin42
106 prop_binY18_bin17
107 lumiGS
108 prop_binY16_bin16
109 prop_binY16_bin7
110 emucostrw1b1718
111 pdf41
112 elHLTENDPTHIGH18
113 ptrw5b16
114 elfakesrw3b16
115 prop_binY16_bin46
116 prop_binY16_bin28
117 prop_binY18_bin7
118 prop_binY16_bin8
119 prop_binY16_bin59
120 prop_binY17_bin20
×10
−2 −1 0 1 2
−0.5 0 0.5
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
ΔŷLQ2

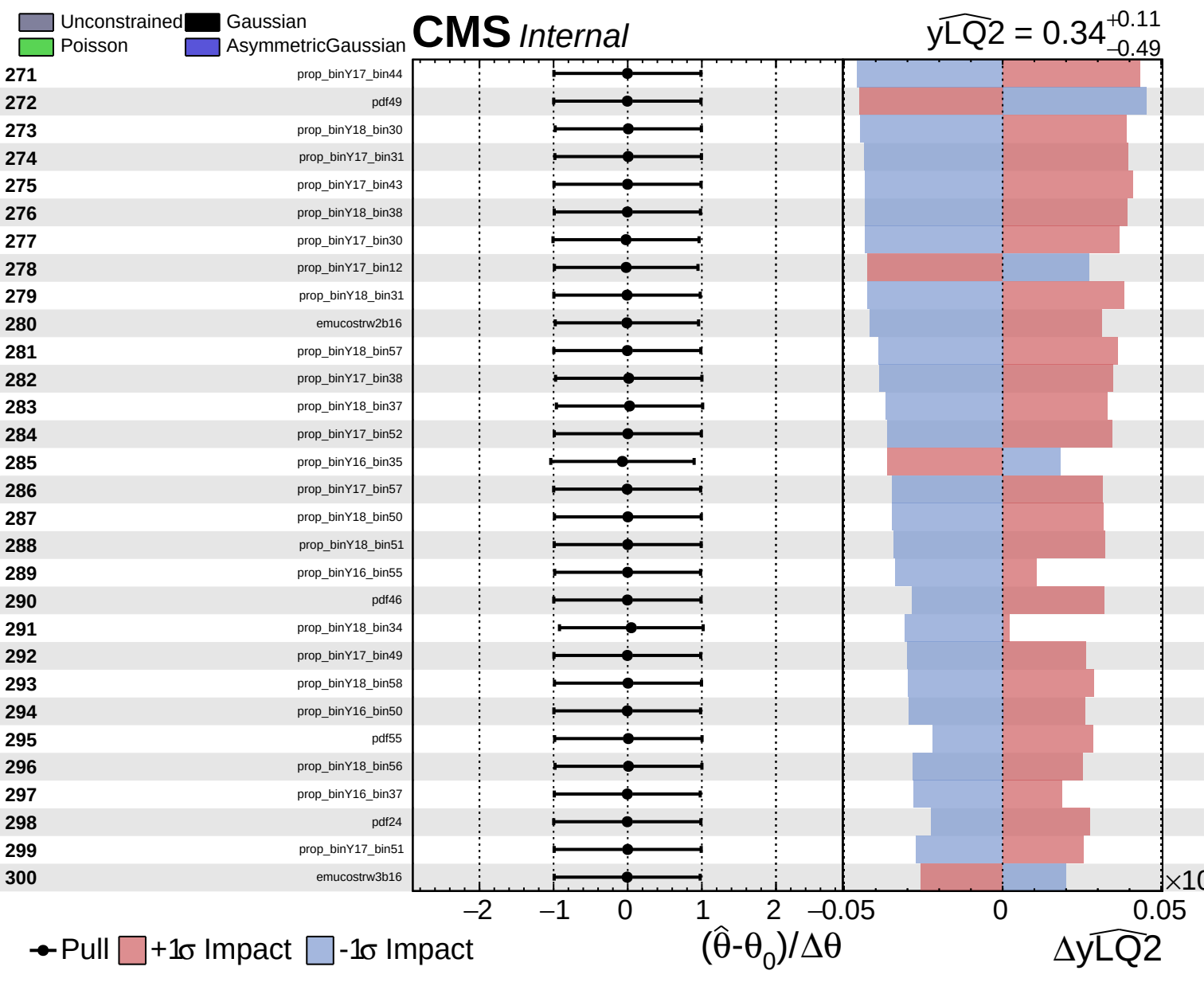

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
$\widehat{yLQ2} = 0.34^{+0.11}_{-0.49}$
121 prop_binY17_bin27
122 prop_binY18_bin0
123 prop_binY16_bin52
124 elfakesrw2b16
125 ptrw4b16
126 prop_binY16_bin17
127 prop_binY16_bin1
128 prop_binY17_bin33
129 elHLTBARPTLOW18
130 prop_binY16_bin20
131 prop_binY17_bin16
132 pdf8
133 pdf9
134 prop_binY17_bin28
135 prop_binY16_bin0
136 pdf37
137 pdf11
138 pdf45
139 prop_binY16_bin18
140 prop_binY16_bin27
141 pdf36
142 prop_binY17_bin18
143 elfakesrw4b17
144 prop_binY17_bin17
145 prop_binY16_bin42
146 prop_binY16_bin33
147 elfakesrw2b17
148 pdf16
149 elHLTENDPTHIGH17
150 prop_binY18_bin18
−2 −1 0 1 2
−0.2 0 0.2
×10
Pull
+1σ Impact
-1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$

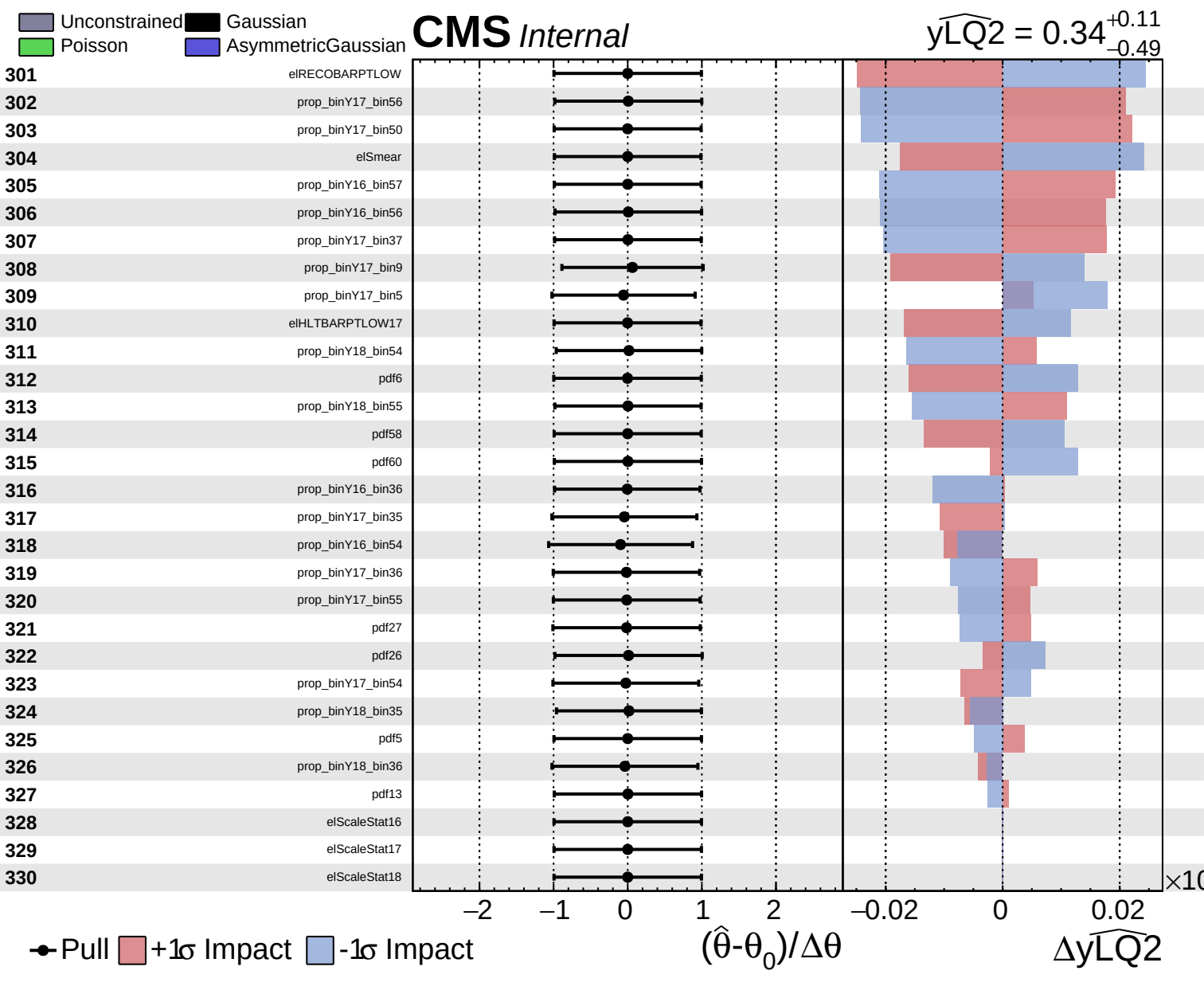

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
ŷLQ2 = 0.34 +0.11 −0.49
151 pdf15
152 prop_binY16_bin21
153 pdf32
154 prop_binY16_bin3
155 prop_binY16_bin43
156 prop_binY18_bin48
157 prop_binY16_bin45
158 prop_binY18_bin6
159 prop_binY16_bin4
160 prop_binY18_bin28
161 prop_binY16_bin15
162 prop_binY16_bin2
163 pdf2
164 prop_binY16_bin26
165 elHLTBARPTLOW16
166 pdf30
167 ptrw3b16
168 prop_binY17_bin15
169 pdf23
170 pdf52
171 prop_binY16_bin12
172 pdf48
173 prop_binY17_bin48
174 pdf39
175 prop_binY18_bin20
176 emucostrw4b1718
177 prop_binY18_bin33
178 prop_binY16_bin5
179 prop_binY18_bin26
180 prop_binY18_bin21
−2 −1 0 1 2
−0.2 0 0.2
×10
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
ΔŷLQ2

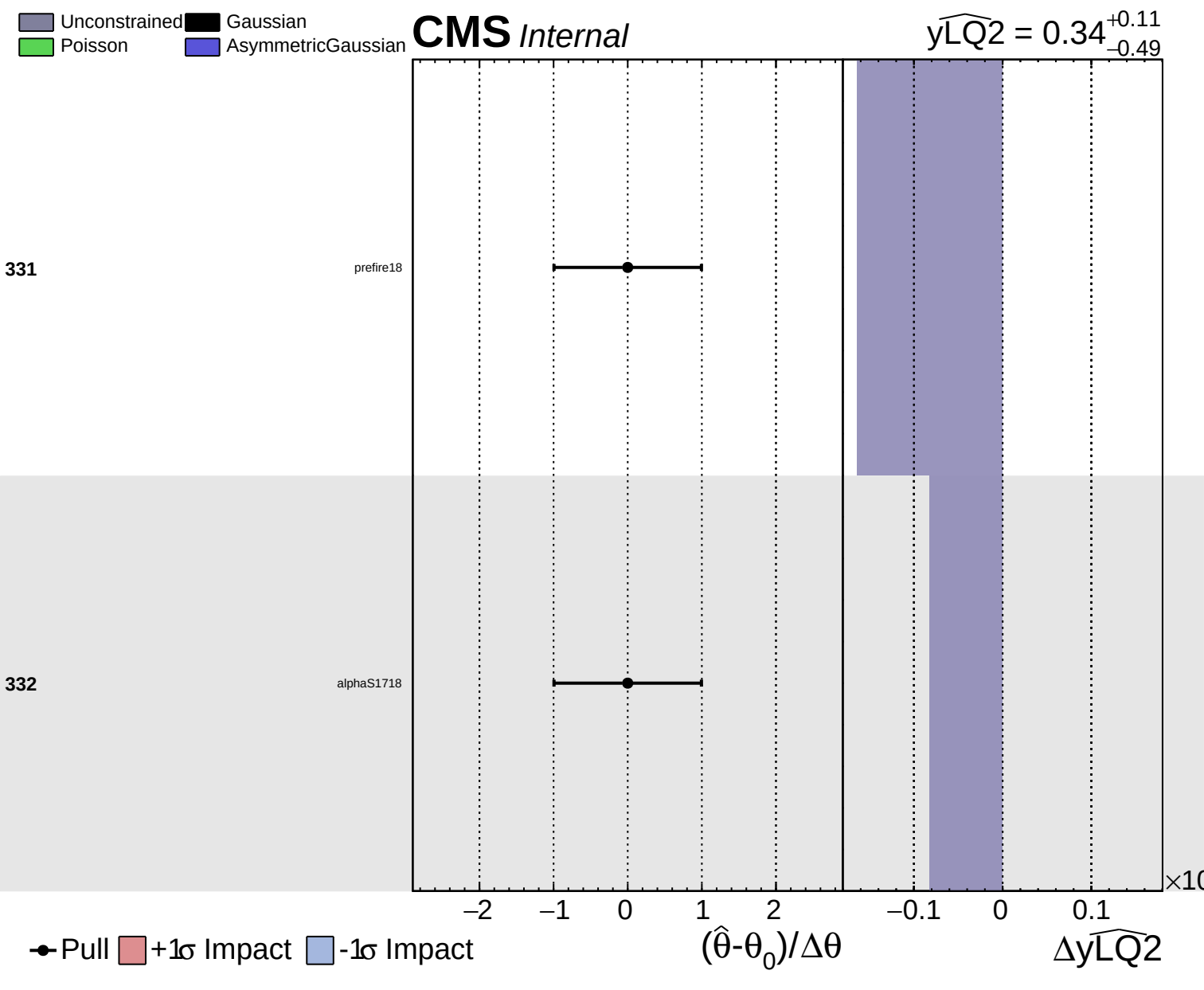

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
$\widehat{yLQ2} = 0.34^{+0.11}_{-0.49}$
181 elfakesrw2b18
182 prop_binY17_bin1
183 prop_binY18_bin10
184 pdf50
185 prop_binY16_bin22
186 prop_binY18_bin15
187 prop_binY17_bin21
188 emucostrw1b16
189 pdf34
190 pdf38
191 prop_binY18_bin1
192 pdf56
193 prop_binY18_bin43
194 prop_binY17_bin26
195 pdf47
196 prop_binY18_bin11
197 prop_binY17_bin42
198 prop_binY16_bin25
199 prop_binY17_bin45
200 prop_binY18_bin5
201 prop_binY18_bin44
202 elHLTBARPTHIGH17
203 prop_binY17_bin3
204 pdf10
205 prop_binY16_bin44
206 elRECOENDPTLOW
207 prop_binY18_bin52
208 pdf53
209 pdf54
210 elHLTENDPTLOW16
−2 −1 0 1 2
−0.1 0 0.1
×10
Pull
+1σ Impact
-1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
ŷLQ2 = 0.34 +0.11 −0.49
211 prop_binY18_bin59
212 prop_binY16_bin32
213 pdf59
214 pdf12
215 emucostrw3b1718
216 prop_binY16_bin39
217 pdf7
218 pdf42
219 pdf1
220 prop_binY16_bin9
221 prop_binY17_bin4
222 pdf3
223 prop_binY18_bin3
224 prop_binY17_bin10
225 prop_binY18_bin4
226 prop_binY17_bin11
227 prop_binY16_bin24
228 prop_binY16_bin23
229 prop_binY17_bin34
230 prop_binY18_bin22
231 prop_binY17_bin59
232 prop_binY18_bin27
233 pdf21
234 prop_binY17_bin25
235 prop_binY17_bin22
236 prop_binY16_bin30
237 pdf14
238 prop_binY18_bin49
239 prop_binY18_bin9
240 prop_binY16_bin31
−2
−1
0
1
2
−0.1
0
0.1
×10
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
ΔŷLQ2


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
$\widehat{yLQ2} = 0.34^{+0.11}_{-0.49}$
241 elfakesrw3b18
242 prop_binY16_bin29
243 prop_binY18_bin12
244 prop_binY18_bin25
245 prop_binY18_bin23
246 emucostrw4b16
247 prop_binY16_bin49
248 prop_binY17_bin39
249 prop_binY18_bin24
250 prop_binY18_bin39
251 pdf25
252 prop_binY17_bin23
253 prop_binY17_bin32
254 pdf29
255 prop_binY17_bin24
256 prop_binY17_bin58
257 pdf22
258 pdf40
259 elHLTENDPTLOW18
260 prop_binY18_bin32
261 prop_binY18_bin29
262 elHLTENDPTLOW17
263 prop_binY18_bin2
264 prop_binY16_bin58
265 prop_binY16_bin34
266 pdf18
267 prop_binY17_bin2
268 prop_binY16_bin38
269 prop_binY17_bin29
270 elIDBARPTLOW
−2 −1 0 1 2
−0.05 0 0.05
×10
Pull
+1σ Impact
-1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
$\widehat{yLQ2} = 0.34^{+0.11}_{-0.49}$
271 prop_binY17_bin44
272 pdf49
273 prop_binY18_bin30
274 prop_binY17_bin31
275 prop_binY17_bin43
276 prop_binY18_bin38
277 prop_binY17_bin30
278 prop_binY17_bin12
279 prop_binY18_bin31
280 emucostrw2b16
281 prop_binY18_bin57
282 prop_binY17_bin38
283 prop_binY18_bin37
284 prop_binY17_bin52
285 prop_binY16_bin35
286 prop_binY17_bin57
287 prop_binY18_bin50
288 prop_binY18_bin51
289 prop_binY16_bin55
290 pdf46
291 prop_binY18_bin34
292 prop_binY17_bin49
293 prop_binY18_bin58
294 prop_binY16_bin50
295 pdf55
296 prop_binY18_bin56
297 prop_binY16_bin37
298 pdf24
299 prop_binY17_bin51
300 emucostrw3b16
−2
−1
0
1
2
−0.05
0
0.05
×10
Pull
+1σ Impact
-1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
$\widehat{yLQ2} = 0.34^{+0.11}_{-0.49}$
301 elRECOBARPTLOW
302 prop_binY17_bin56
303 prop_binY17_bin50
304 elSmear
305 prop_binY16_bin57
306 prop_binY16_bin56
307 prop_binY17_bin37
308 prop_binY17_bin9
309 prop_binY17_bin5
310 elHLTBARPTLOW17
311 prop_binY18_bin54
312 pdf6
313 prop_binY18_bin55
314 pdf58
315 pdf60
316 prop_binY16_bin36
317 prop_binY17_bin35
318 prop_binY16_bin54
319 prop_binY17_bin36
320 prop_binY17_bin55
321 pdf27
322 pdf26
323 prop_binY17_bin54
324 prop_binY18_bin35
325 pdf5
326 prop_binY18_bin36
327 pdf13
328 elScaleStat16
329 elScaleStat17
330 elScaleStat18
−2
−1
0
1
2
−0.02
0
0.02
×10
Pull
+1σ Impact
-1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
ŷLQ2 = 0.34 +0.11 −0.49
331
prefire18
332
alphaS1718
−2
−1
0
1
2
−0.1
0
0.1
×10
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
ΔŷLQ2