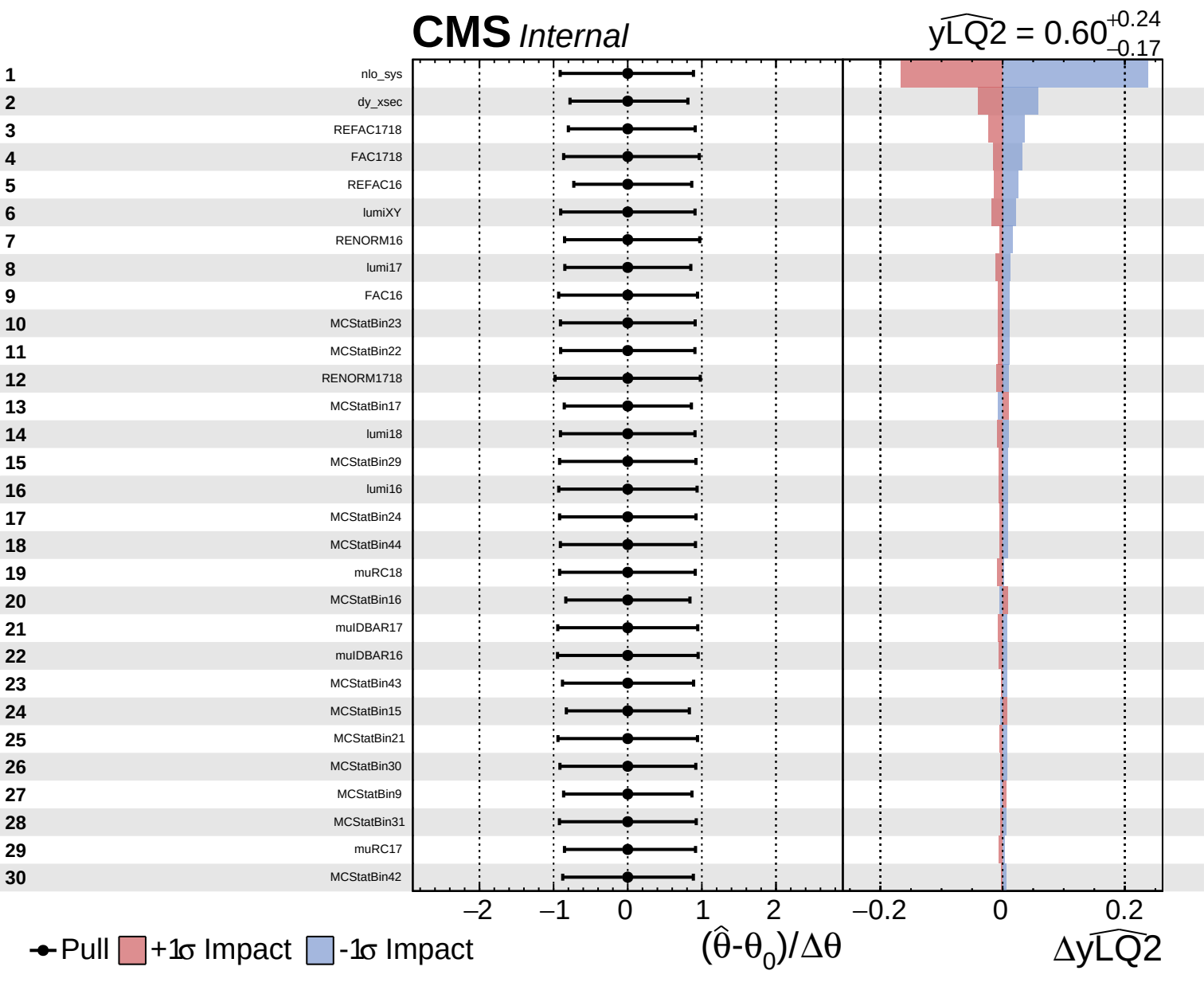
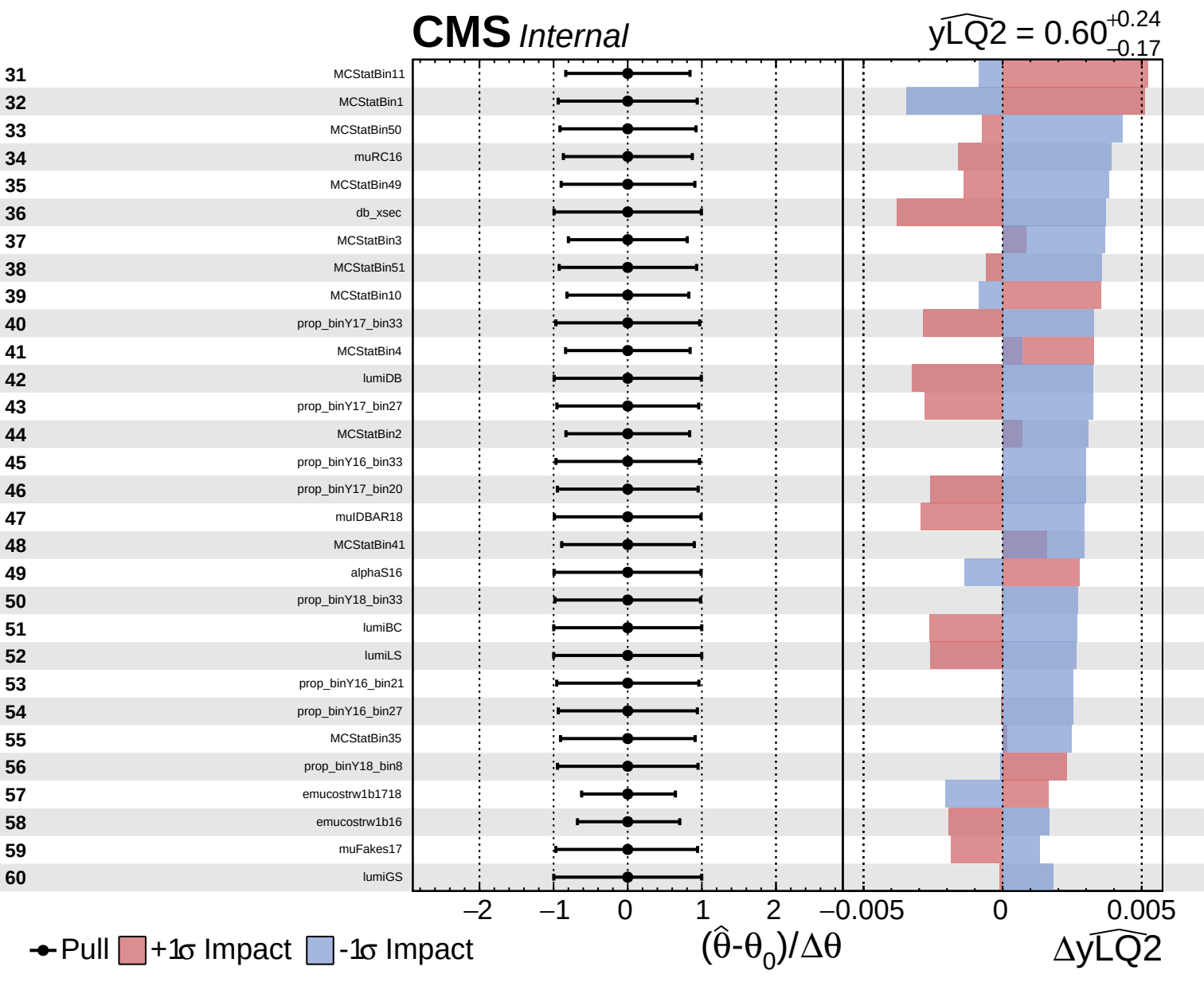
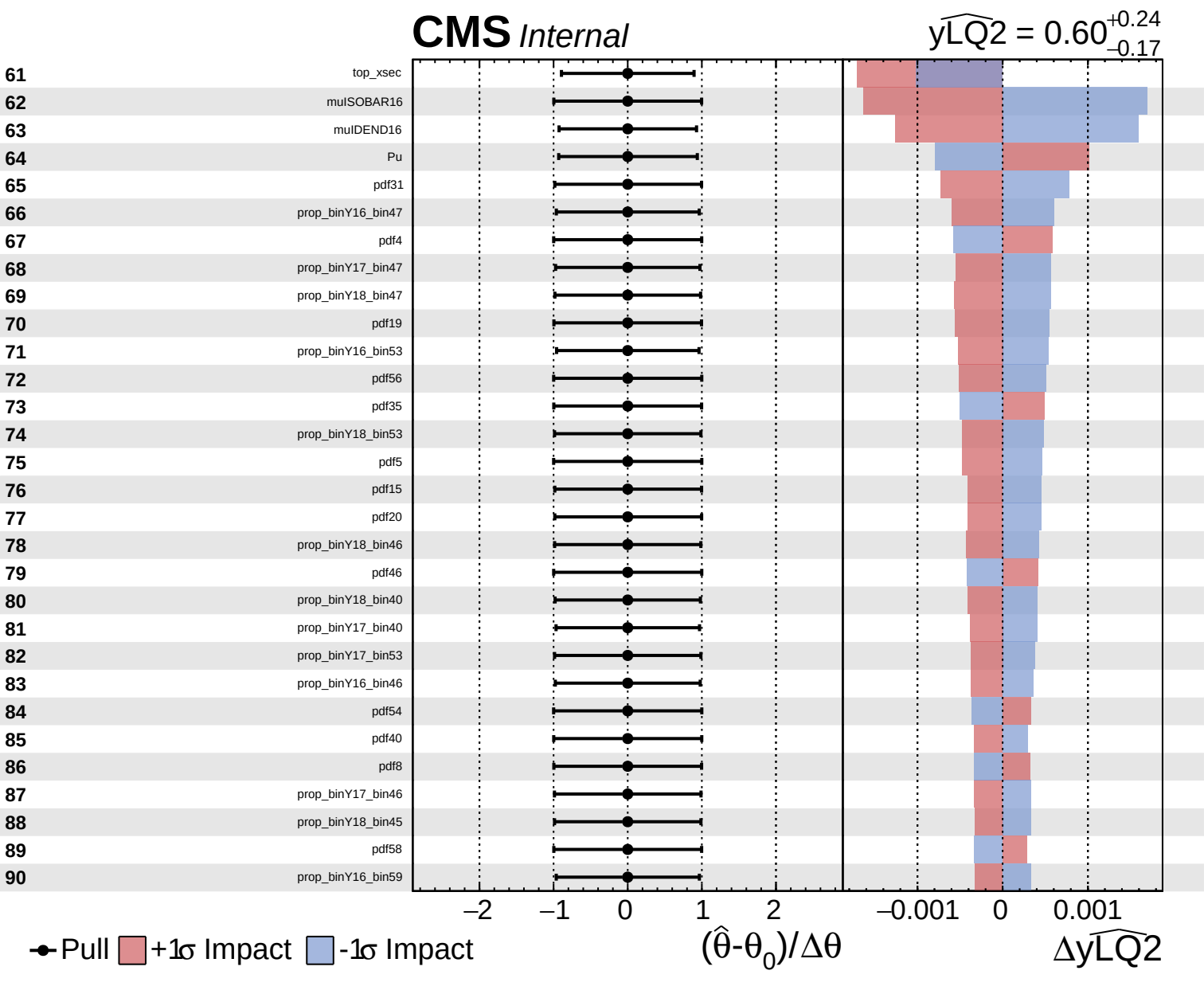
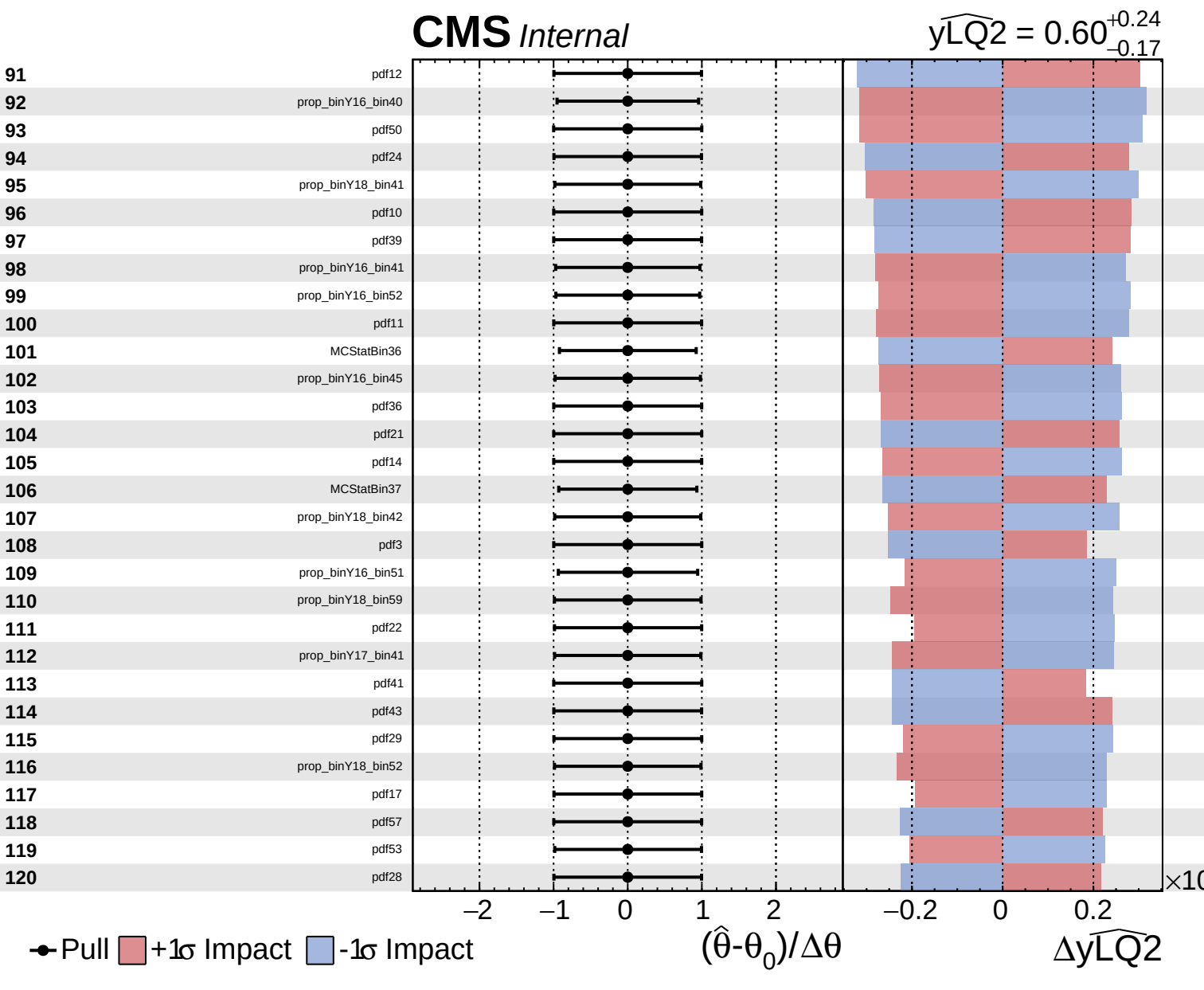
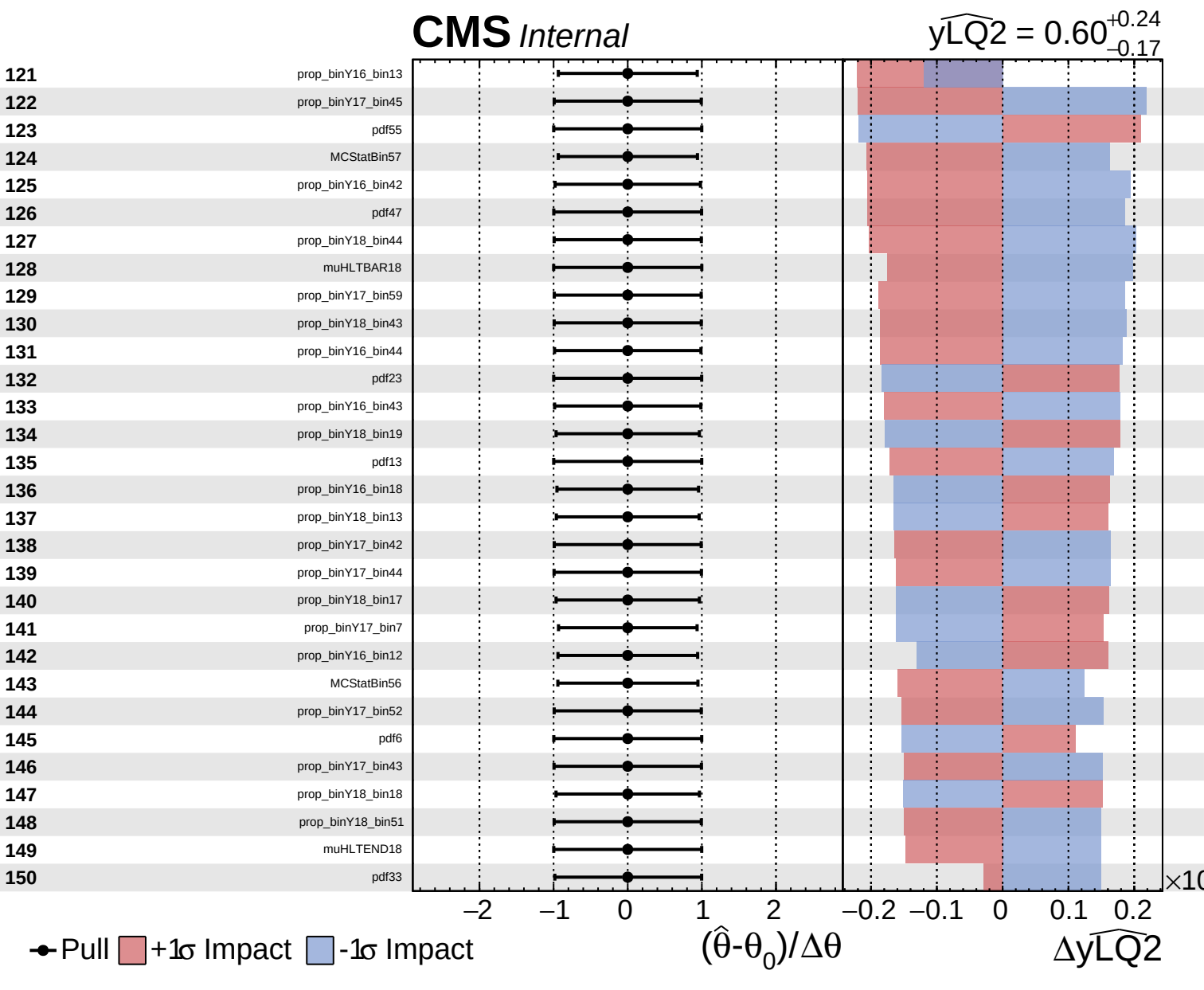
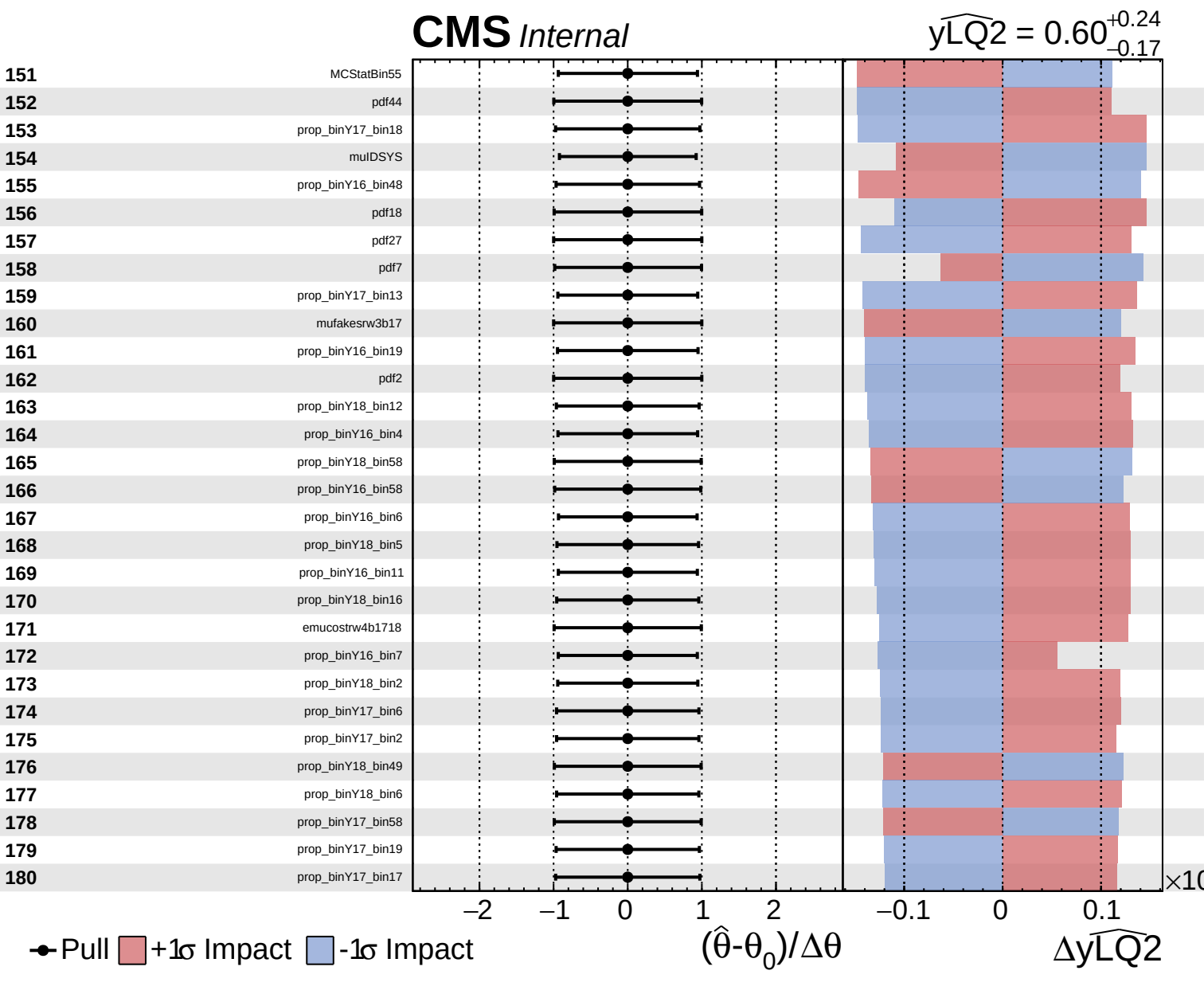

CMS Internal
$\widehat{yLQ2} = 0.60^{+0.24}_{-0.17}$
1 nlo_sys
2 dy_xsec
3 REFAC1718
4 FAC1718
5 REFAC16
6 lumiXY
7 RENORM16
8 lumi17
9 FAC16
10 MCStatBin23
11 MCStatBin22
12 RENORM1718
13 MCStatBin17
14 lumi18
15 MCStatBin29
16 lumi16
17 MCStatBin24
18 MCStatBin44
19 muRC18
20 MCStatBin16
21 muIDBAR17
22 muIDBAR16
23 MCStatBin43
24 MCStatBin15
25 MCStatBin21
26 MCStatBin30
27 MCStatBin9
28 MCStatBin31
29 muRC17
30 MCStatBin42
−2 −1 0 1 2
−0.2 0 0.2
Pull +1σ Impact -1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$

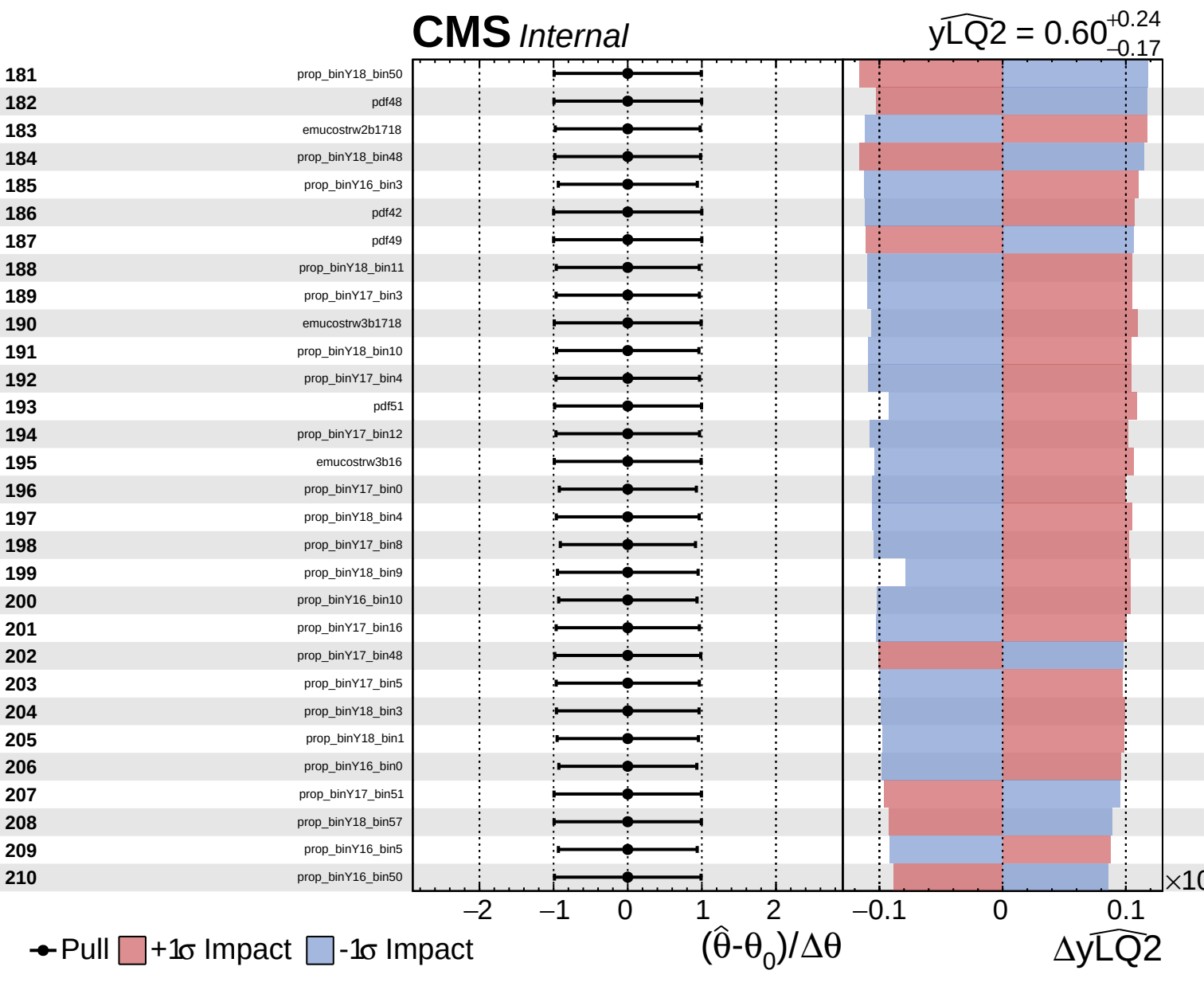

CMS Internal
$\widehat{yLQ2} = 0.60^{+0.24}_{-0.17}$
31 MCStatBin11
32 MCStatBin1
33 MCStatBin50
34 muRC16
35 MCStatBin49
36 db_xsec
37 MCStatBin3
38 MCStatBin51
39 MCStatBin10
40 prop_binY17_bin33
41 MCStatBin4
42 lumiDB
43 prop_binY17_bin27
44 MCStatBin2
45 prop_binY16_bin33
46 prop_binY17_bin20
47 muIDBAR18
48 MCStatBin41
49 alphaS16
50 prop_binY18_bin33
51 lumiBC
52 lumiLS
53 prop_binY16_bin21
54 prop_binY16_bin27
55 MCStatBin35
56 prop_binY18_bin8
57 emucostrw1b1718
58 emucostrw1b16
59 muFakes17
60 lumiGS
−2 −1 0 1 2
−0.005 0 0.005
Pull +1σ Impact -1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$

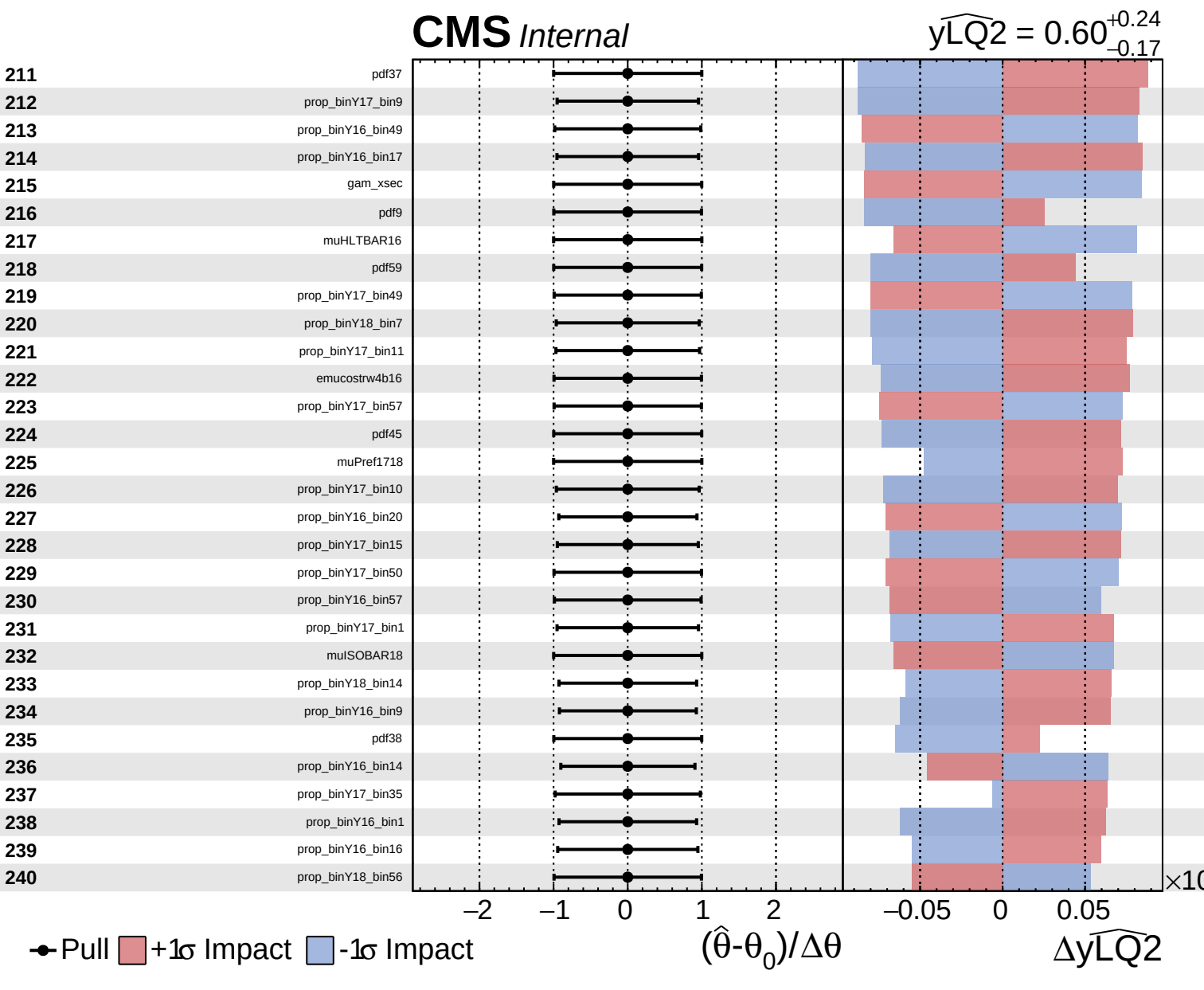

CMS Internal
$\widehat{yLQ2} = 0.60^{+0.24}_{-0.17}$
61 top_xsec
62 muISOBAR16
63 muIDEND16
64 Pu
65 pdf31
66 prop_binY16_bin47
67 pdf4
68 prop_binY17_bin47
69 prop_binY18_bin47
70 pdf19
71 prop_binY16_bin53
72 pdf56
73 pdf35
74 prop_binY18_bin53
75 pdf5
76 pdf15
77 pdf20
78 prop_binY18_bin46
79 pdf46
80 prop_binY18_bin40
81 prop_binY17_bin40
82 prop_binY17_bin53
83 prop_binY16_bin46
84 pdf54
85 pdf40
86 pdf8
87 prop_binY17_bin46
88 prop_binY18_bin45
89 pdf58
90 prop_binY16_bin59
−2 −1 0 1 2
−0.001 0 0.001
Pull +1σ Impact -1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$

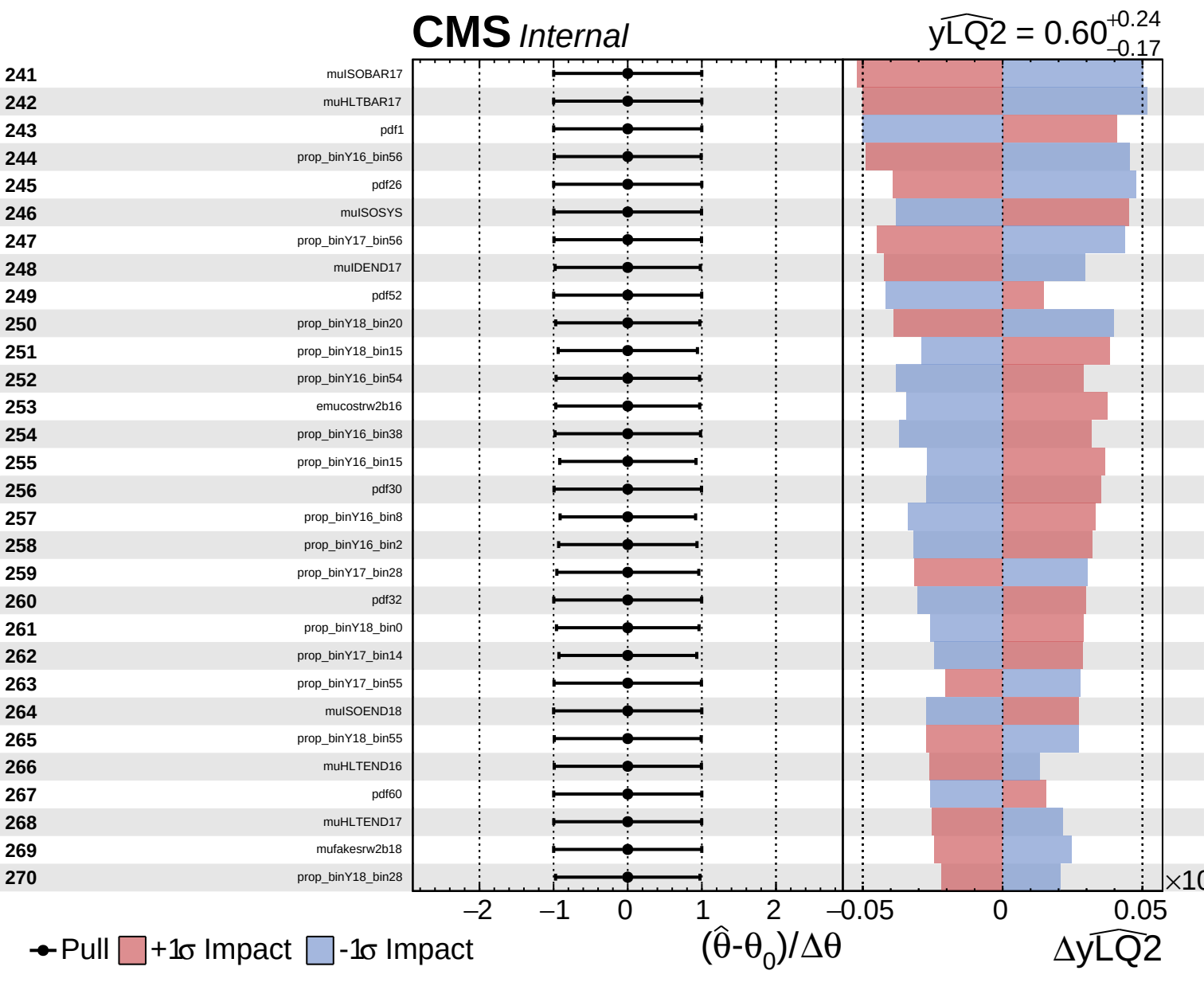

CMS Internal
$\widehat{yLQ2} = 0.60^{+0.24}_{-0.17}$
91 pdf12
92 prop_binY16_bin40
93 pdf50
94 pdf24
95 prop_binY18_bin41
96 pdf10
97 pdf39
98 prop_binY16_bin41
99 prop_binY16_bin52
100 pdf11
101 MCStatBin36
102 prop_binY16_bin45
103 pdf36
104 pdf21
105 pdf14
106 MCStatBin37
107 prop_binY18_bin42
108 pdf3
109 prop_binY16_bin51
110 prop_binY18_bin59
111 pdf22
112 prop_binY17_bin41
113 pdf41
114 pdf43
115 pdf29
116 prop_binY18_bin52
117 pdf17
118 pdf57
119 pdf53
120 pdf28
−2 −1 0 1 2
−0.2 0 0.2
×10
Pull
+1σ Impact
-1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$

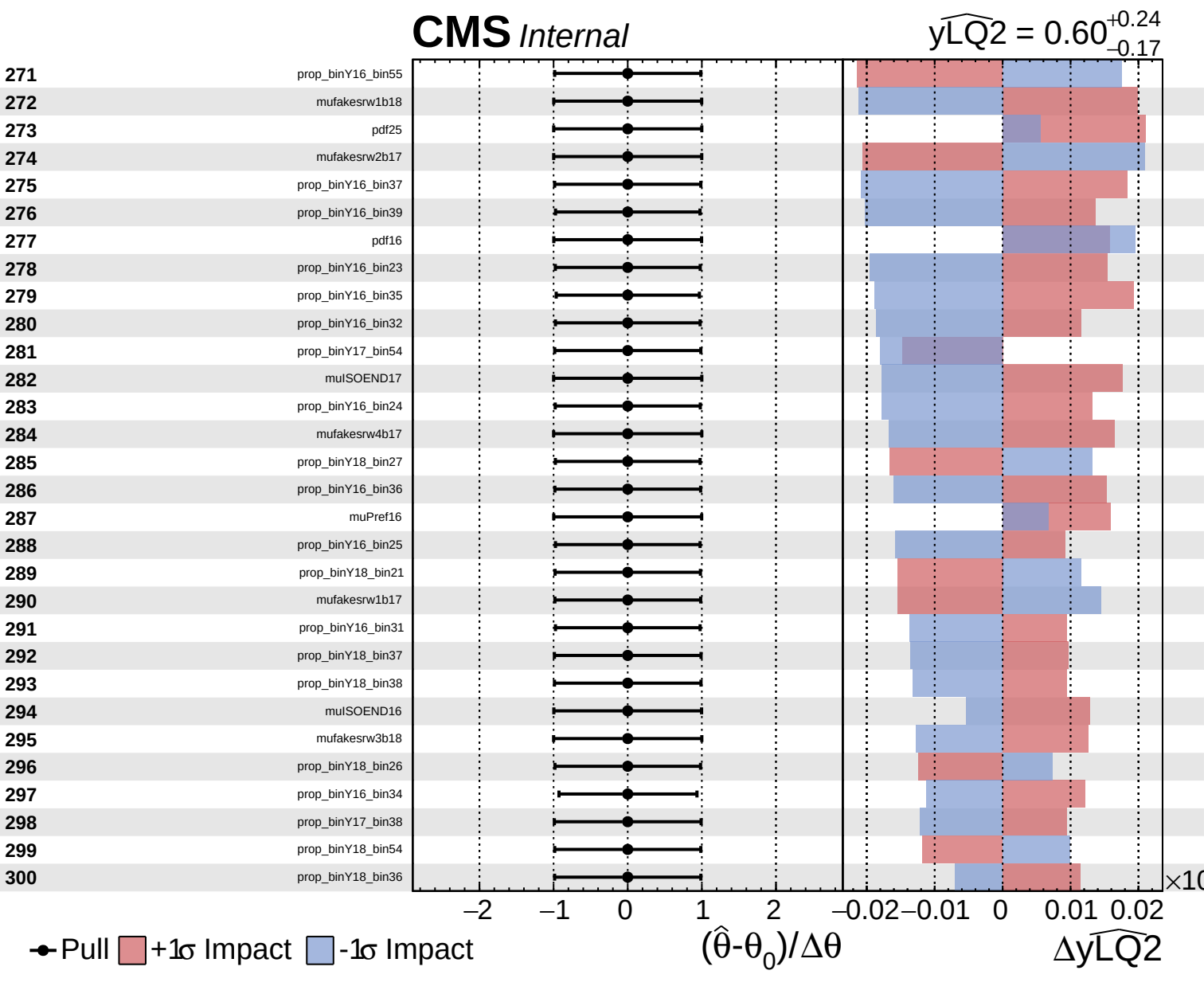

CMS Internal
$\widehat{yLQ2} = 0.60^{+0.24}_{-0.17}$
121 prop_binY16_bin13
122 prop_binY17_bin45
123 pdf55
124 MCStatBin57
125 prop_binY16_bin42
126 pdf47
127 prop_binY18_bin44
128 muHLTBAR18
129 prop_binY17_bin59
130 prop_binY18_bin43
131 prop_binY16_bin44
132 pdf23
133 prop_binY16_bin43
134 prop_binY18_bin19
135 pdf13
136 prop_binY16_bin18
137 prop_binY18_bin13
138 prop_binY17_bin42
139 prop_binY17_bin44
140 prop_binY18_bin17
141 prop_binY17_bin7
142 prop_binY16_bin12
143 MCStatBin56
144 prop_binY17_bin52
145 pdf6
146 prop_binY17_bin43
147 prop_binY18_bin18
148 prop_binY18_bin51
149 muHLTEND18
150 pdf33
−2 −1 0 1 2
−0.2 −0.1 0 0.1 0.2
×10
Pull
+1σ Impact
-1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$

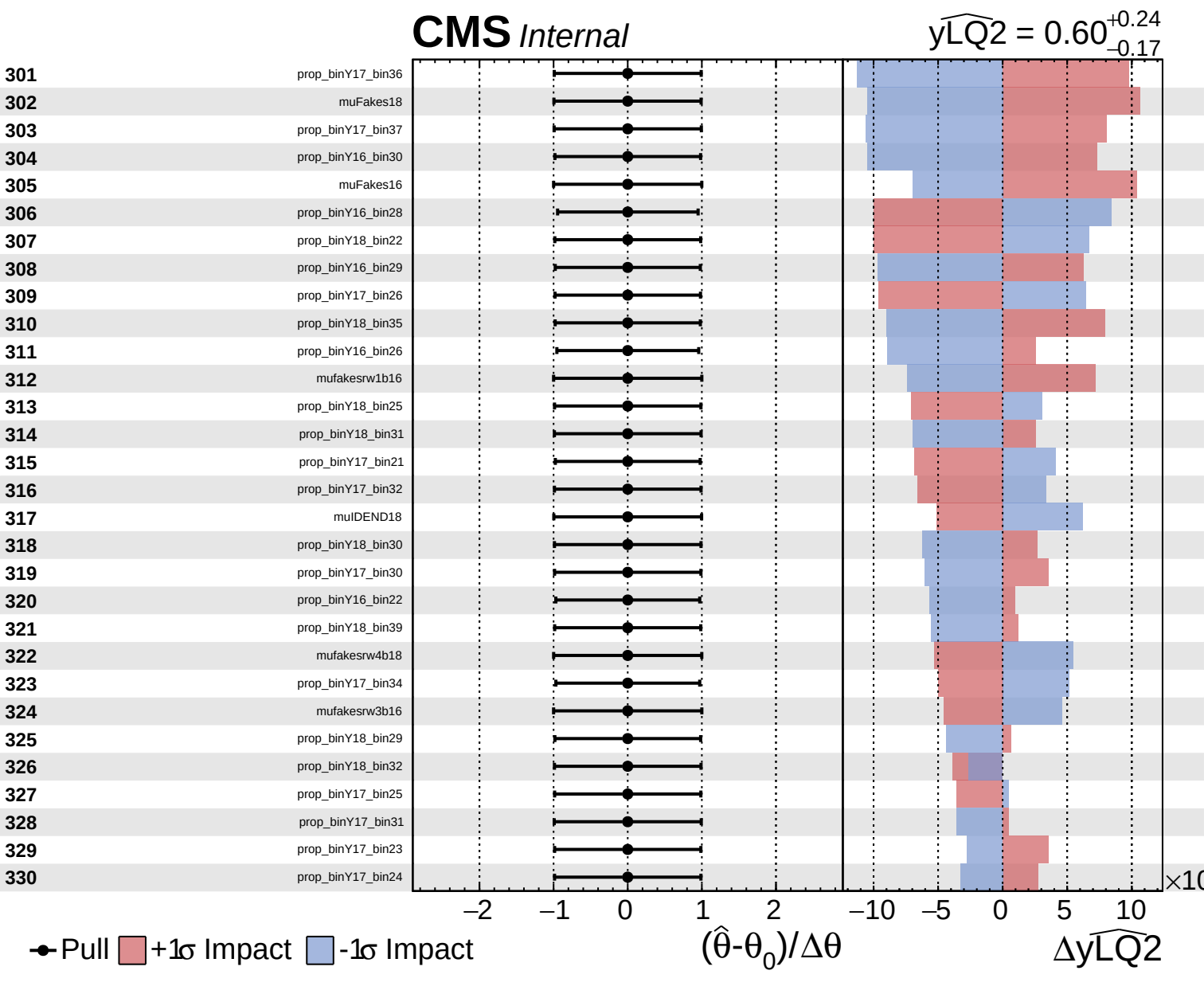

CMS Internal
$\widehat{yLQ2} = 0.60^{+0.24}_{-0.17}$
151 MCStatBin55
152 pdf44
153 prop_binY17_bin18
154 mulDSYS
155 prop_binY16_bin48
156 pdf18
157 pdf27
158 pdf7
159 prop_binY17_bin13
160 mufakesrw3b17
161 prop_binY16_bin19
162 pdf2
163 prop_binY18_bin12
164 prop_binY16_bin4
165 prop_binY18_bin58
166 prop_binY16_bin58
167 prop_binY16_bin6
168 prop_binY18_bin5
169 prop_binY16_bin11
170 prop_binY18_bin16
171 emucostrw4b1718
172 prop_binY16_bin7
173 prop_binY18_bin2
174 prop_binY17_bin6
175 prop_binY17_bin2
176 prop_binY18_bin49
177 prop_binY18_bin6
178 prop_binY17_bin58
179 prop_binY17_bin19
180 prop_binY17_bin17
×10
−2 −1 0 1 2
−0.1 0 0.1
Pull +1σ Impact -1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$

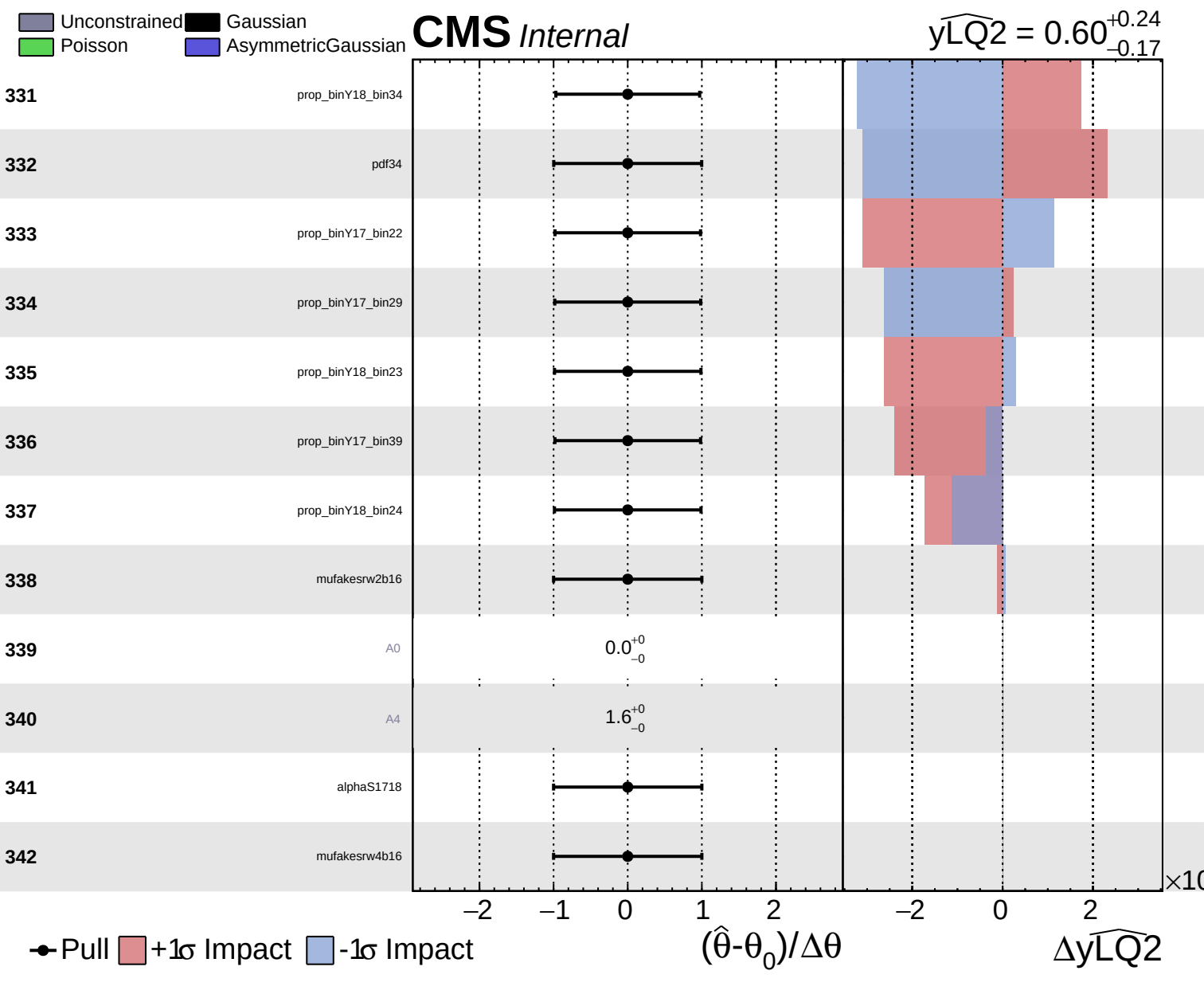

CMS Internal
$\widehat{yLQ2} = 0.60^{+0.24}_{-0.17}$
181 prop_binY18_bin50
182 pdf48
183 emucostrw2b1718
184 prop_binY18_bin48
185 prop_binY16_bin3
186 pdf42
187 pdf49
188 prop_binY18_bin11
189 prop_binY17_bin3
190 emucostrw3b1718
191 prop_binY18_bin10
192 prop_binY17_bin4
193 pdf51
194 prop_binY17_bin12
195 emucostrw3b16
196 prop_binY17_bin0
197 prop_binY18_bin4
198 prop_binY17_bin8
199 prop_binY18_bin9
200 prop_binY16_bin10
201 prop_binY17_bin16
202 prop_binY17_bin48
203 prop_binY17_bin5
204 prop_binY18_bin3
205 prop_binY18_bin1
206 prop_binY16_bin0
207 prop_binY17_bin51
208 prop_binY18_bin57
209 prop_binY16_bin5
210 prop_binY16_bin50
−2 −1 0 1 2
−0.1 0 0.1
×10
Pull +1σ Impact -1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$


CMS Internal
$\widehat{yLQ2} = 0.60^{+0.24}_{-0.17}$
211 pdf37
212 prop_binY17_bin9
213 prop_binY16_bin49
214 prop_binY16_bin17
215 gam_xsec
216 pdf9
217 muHLTBAR16
218 pdf59
219 prop_binY17_bin49
220 prop_binY18_bin7
221 prop_binY17_bin11
222 emucostrw4b16
223 prop_binY17_bin57
224 pdf45
225 muPref1718
226 prop_binY17_bin10
227 prop_binY16_bin20
228 prop_binY17_bin15
229 prop_binY17_bin50
230 prop_binY16_bin57
231 prop_binY17_bin1
232 muISOBAR18
233 prop_binY18_bin14
234 prop_binY16_bin9
235 pdf38
236 prop_binY16_bin14
237 prop_binY17_bin35
238 prop_binY16_bin1
239 prop_binY16_bin16
240 prop_binY18_bin56
×10
−2 −1 0 1 2
−0.05 0 0.05
Pull +1σ Impact -1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$


CMS Internal
$\widehat{yLQ2} = 0.60^{+0.24}_{-0.17}$
241 muISOBAR17
242 muHLTBAR17
243 pdf1
244 prop_binY16_bin56
245 pdf26
246 muISOSYS
247 prop_binY17_bin56
248 muIDEND17
249 pdf52
250 prop_binY18_bin20
251 prop_binY18_bin15
252 prop_binY16_bin54
253 emucostrw2b16
254 prop_binY16_bin38
255 prop_binY16_bin15
256 pdf30
257 prop_binY16_bin8
258 prop_binY16_bin2
259 prop_binY17_bin28
260 pdf32
261 prop_binY18_bin0
262 prop_binY17_bin14
263 prop_binY17_bin55
264 muISOEND18
265 prop_binY18_bin55
266 muHLTEND16
267 pdf60
268 muHLTEND17
269 mufakesrw2b18
270 prop_binY18_bin28
×10
−2 −1 0 1 2
−0.05 0 0.05
Pull +1σ Impact -1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$


CMS Internal
$\widehat{yLQ2} = 0.60^{+0.24}_{-0.17}$
271 prop_binY16_bin55
272 mufakesrw1b18
273 pdf25
274 mufakesrw2b17
275 prop_binY16_bin37
276 prop_binY16_bin39
277 pdf16
278 prop_binY16_bin23
279 prop_binY16_bin35
280 prop_binY16_bin32
281 prop_binY17_bin54
282 muISOEND17
283 prop_binY16_bin24
284 mufakesrw4b17
285 prop_binY18_bin27
286 prop_binY16_bin36
287 muPref16
288 prop_binY16_bin25
289 prop_binY18_bin21
290 mufakesrw1b17
291 prop_binY16_bin31
292 prop_binY18_bin37
293 prop_binY18_bin38
294 muISOEND16
295 mufakesrw3b18
296 prop_binY18_bin26
297 prop_binY16_bin34
298 prop_binY17_bin38
299 prop_binY18_bin54
300 prop_binY18_bin36
×10
−2 −1 0 1 2
−0.02 −0.01 0 0.01 0.02
Pull +1σ Impact -1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$


CMS Internal
$\widehat{yLQ2} = 0.60^{+0.24}_{-0.17}$
301 prop_binY17_bin36
302 muFakes18
303 prop_binY17_bin37
304 prop_binY16_bin30
305 muFakes16
306 prop_binY16_bin28
307 prop_binY18_bin22
308 prop_binY16_bin29
309 prop_binY17_bin26
310 prop_binY18_bin35
311 prop_binY16_bin26
312 mufakesrw1b16
313 prop_binY18_bin25
314 prop_binY18_bin31
315 prop_binY17_bin21
316 prop_binY17_bin32
317 muIDEND18
318 prop_binY18_bin30
319 prop_binY17_bin30
320 prop_binY16_bin22
321 prop_binY18_bin39
322 mufakesrw4b18
323 prop_binY17_bin34
324 mufakesrw3b16
325 prop_binY18_bin29
326 prop_binY18_bin32
327 prop_binY17_bin25
328 prop_binY17_bin31
329 prop_binY17_bin23
330 prop_binY17_bin24
−2 −1 0 1 2
−10 −5 0 5 10
×10
Pull
+1σ Impact
-1σ Impact
$(\hat{\theta}-\theta_0)/\Delta\theta$
$\Delta\widehat{yLQ2}$


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
yLQ2 = 0.60 +0.24 −0.17
331 prop_binY18_bin34
332 pdf34
333 prop_binY17_bin22
334 prop_binY17_bin29
335 prop_binY18_bin23
336 prop_binY17_bin39
337 prop_binY18_bin24
338 mufakesrw2b16
339 A0
0.0 +0 −0
340 A4
1.6 +0 −0
341 alphaS1718
342 mufakesrw4b16
−2 −1 0 1 2
−2 0 2
×10
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
ΔyLQ2