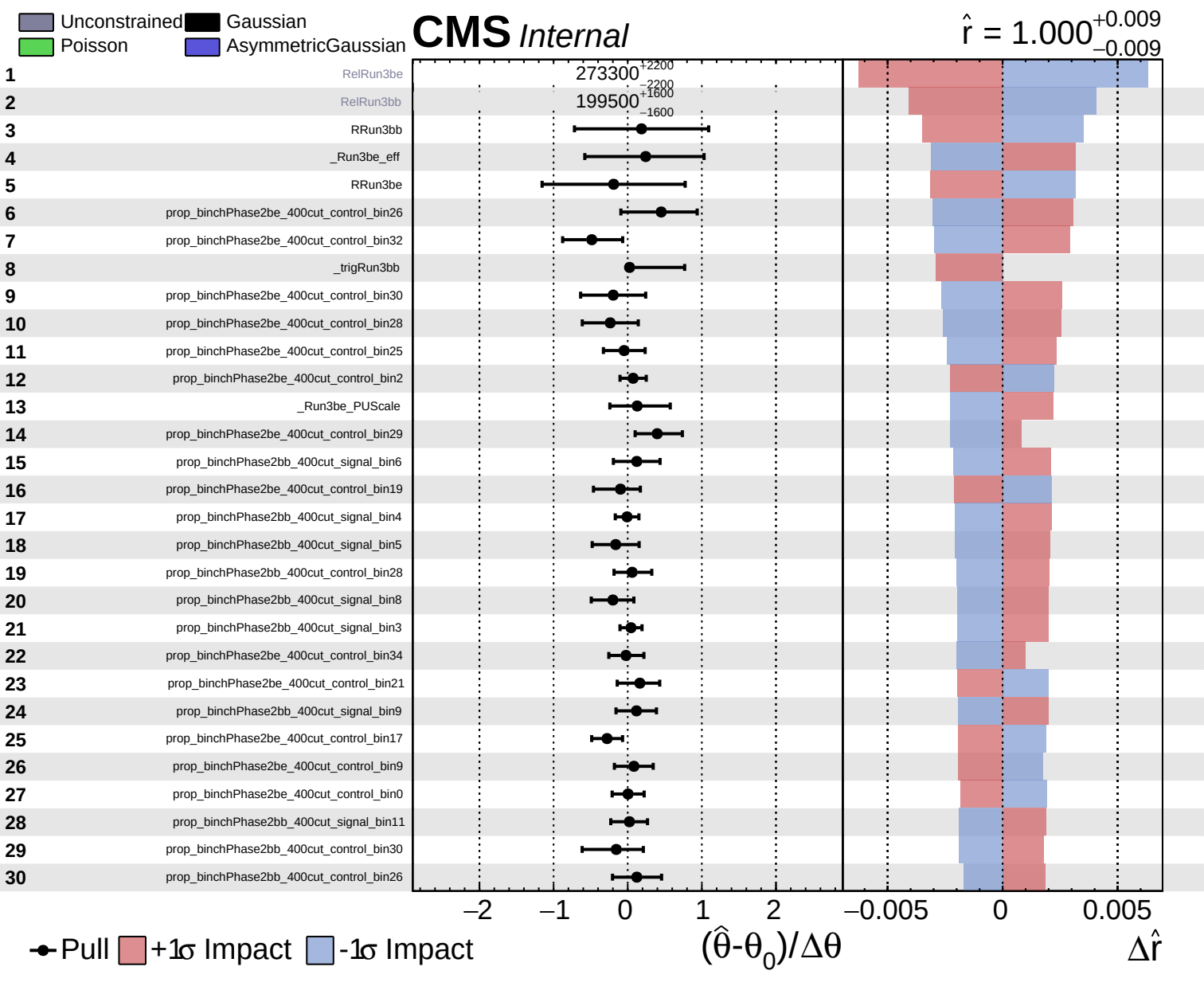
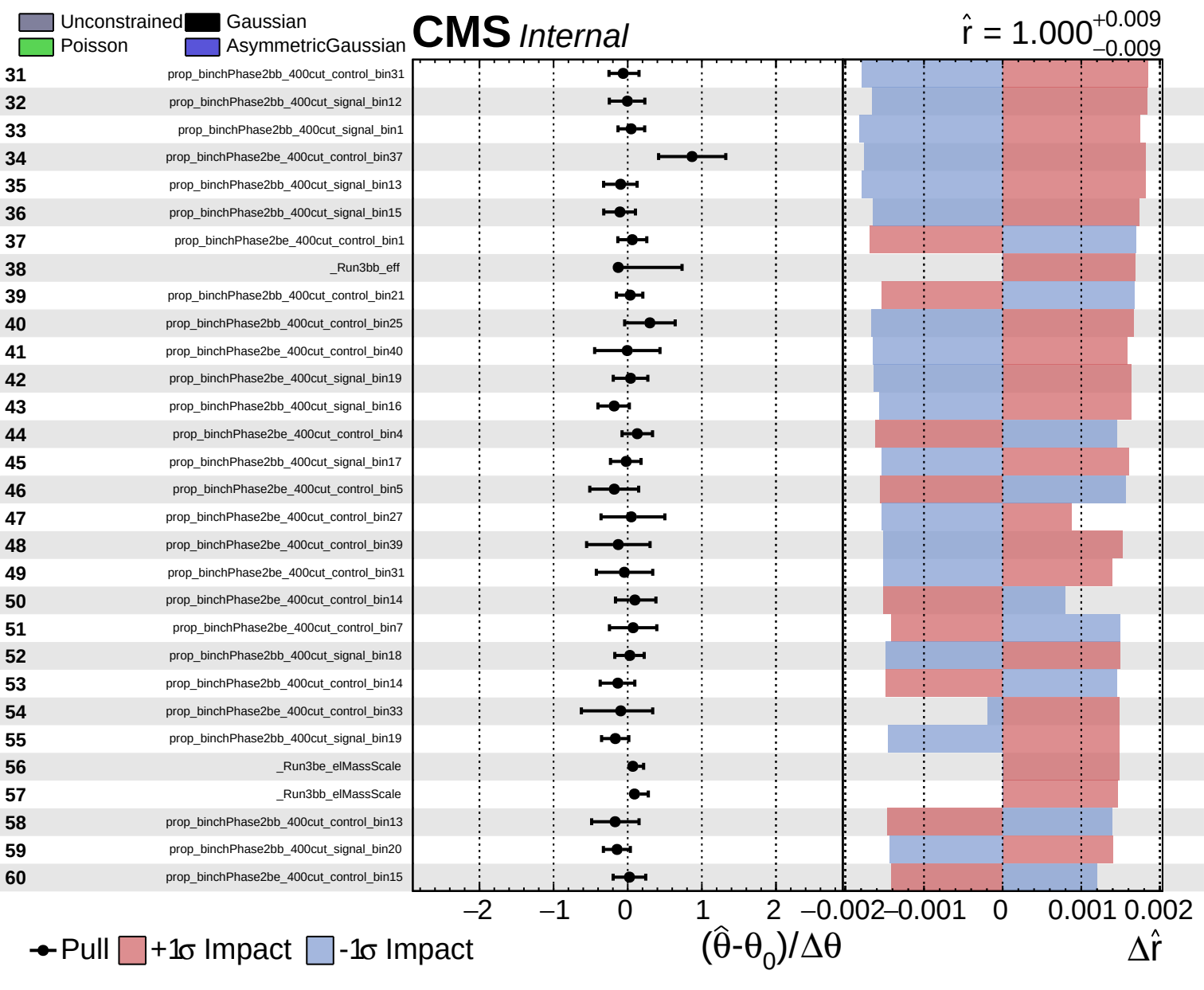
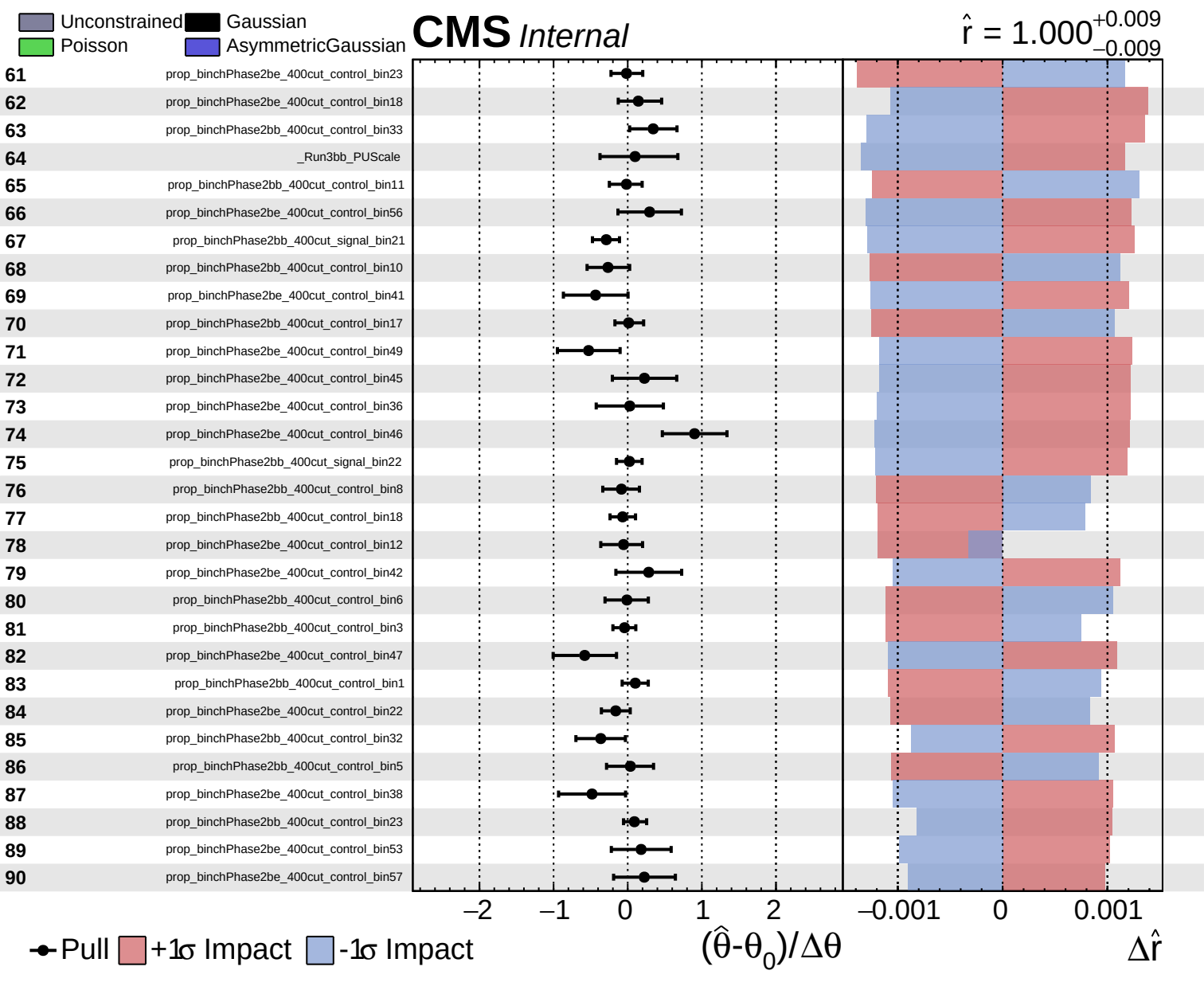
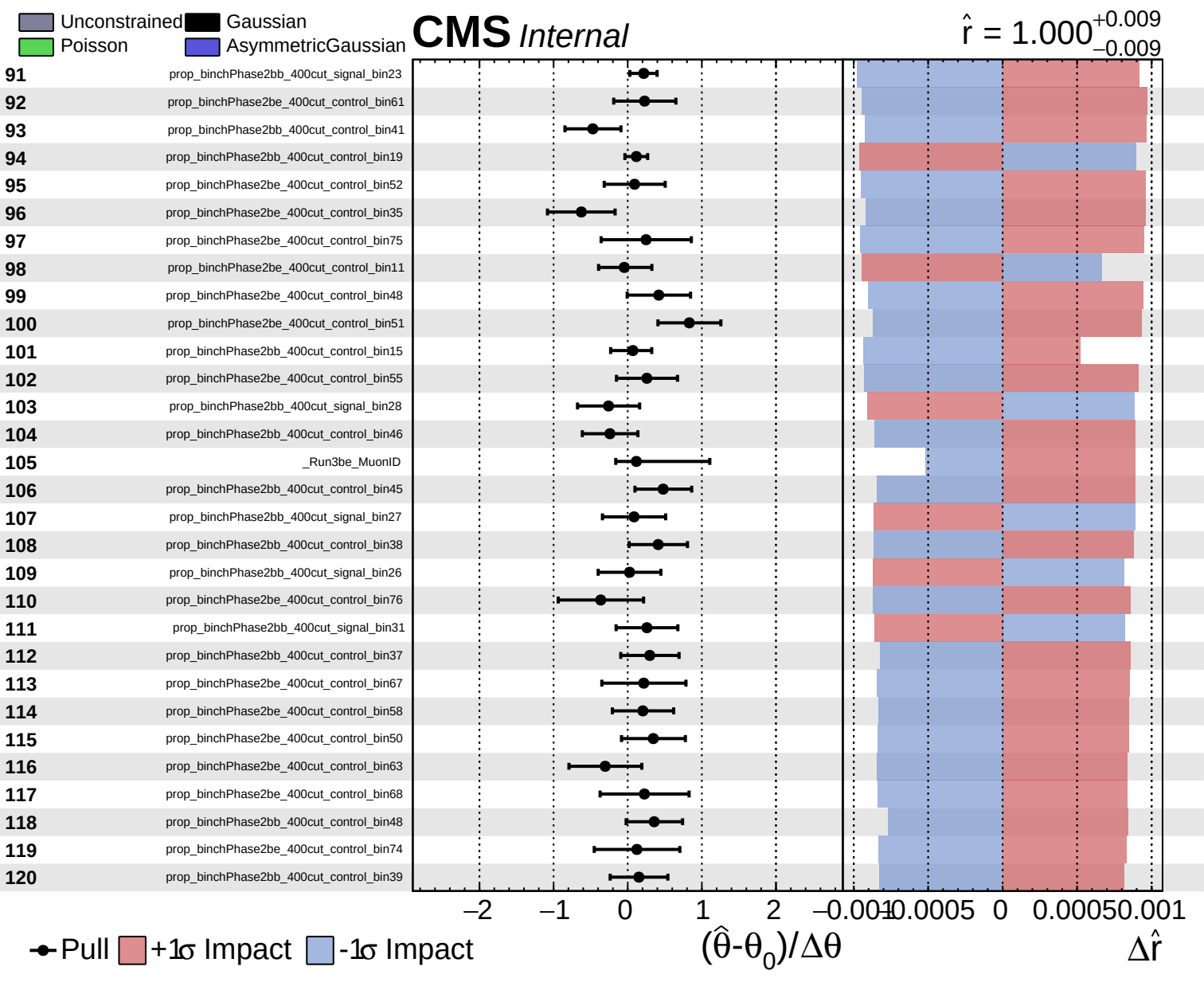
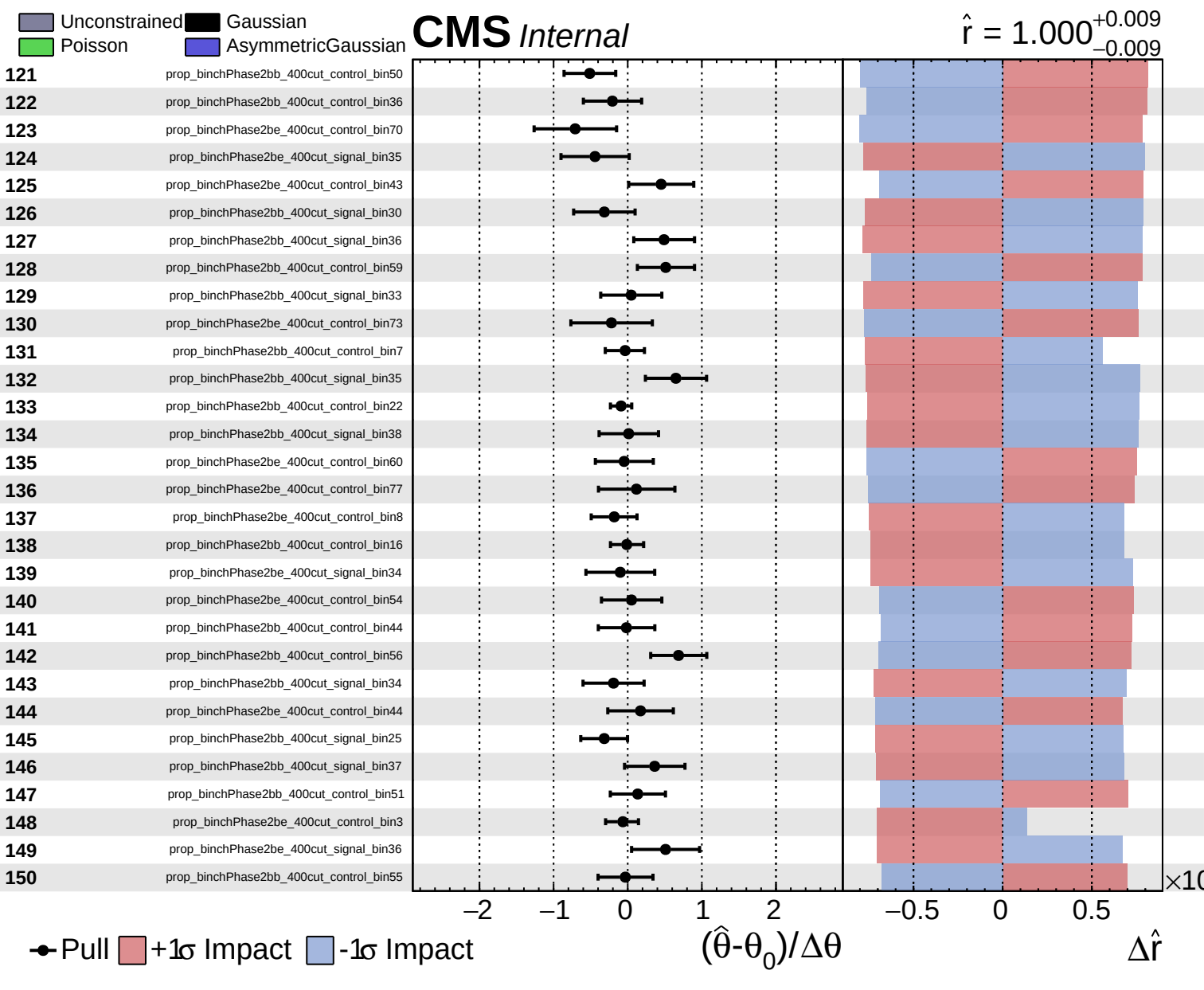
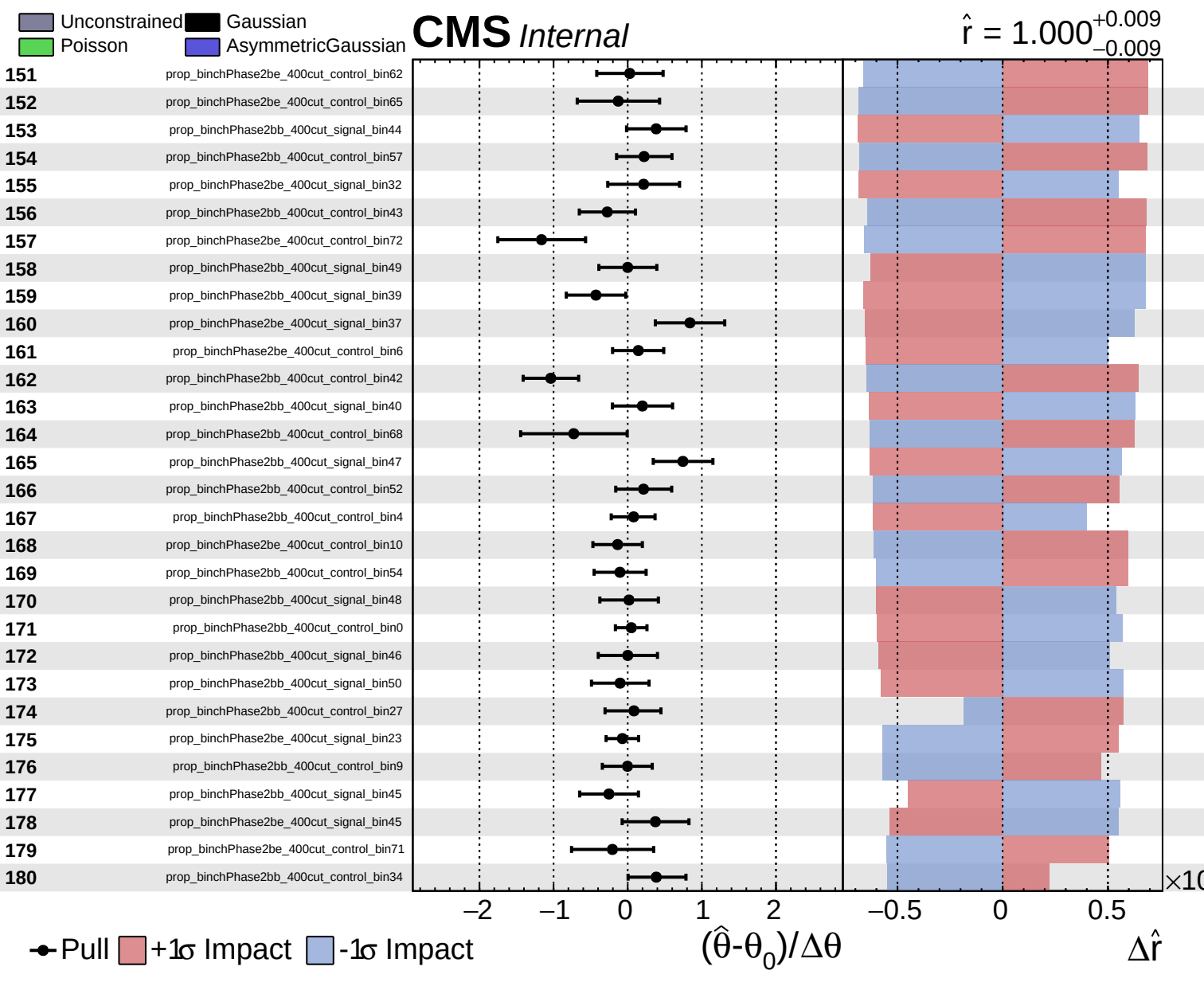

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 1.000 +0.009 −0.009
1 RelRun3be
2 RelRun3bb
3 RRun3bb
4 _Run3be_eff
5 RRun3be
6 prop_binchPhase2be_400cut_control_bin26
7 prop_binchPhase2be_400cut_control_bin32
8 _trigRun3bb
9 prop_binchPhase2be_400cut_control_bin30
10 prop_binchPhase2be_400cut_control_bin28
11 prop_binchPhase2be_400cut_control_bin25
12 prop_binchPhase2be_400cut_control_bin2
13 _Run3be_PUScale
14 prop_binchPhase2be_400cut_control_bin29
15 prop_binchPhase2bb_400cut_signal_bin6
16 prop_binchPhase2be_400cut_control_bin19
17 prop_binchPhase2bb_400cut_signal_bin4
18 prop_binchPhase2bb_400cut_signal_bin5
19 prop_binchPhase2bb_400cut_control_bin28
20 prop_binchPhase2bb_400cut_signal_bin8
21 prop_binchPhase2bb_400cut_signal_bin3
22 prop_binchPhase2be_400cut_control_bin34
23 prop_binchPhase2be_400cut_control_bin21
24 prop_binchPhase2bb_400cut_signal_bin9
25 prop_binchPhase2be_400cut_control_bin17
26 prop_binchPhase2be_400cut_control_bin9
27 prop_binchPhase2be_400cut_control_bin0
28 prop_binchPhase2bb_400cut_signal_bin11
29 prop_binchPhase2bb_400cut_control_bin30
30 prop_binchPhase2bb_400cut_control_bin26
273300 +2200 −2200
199500 +1600 −1600
−2
−1
0
1
2
−0.005
0
0.005
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂

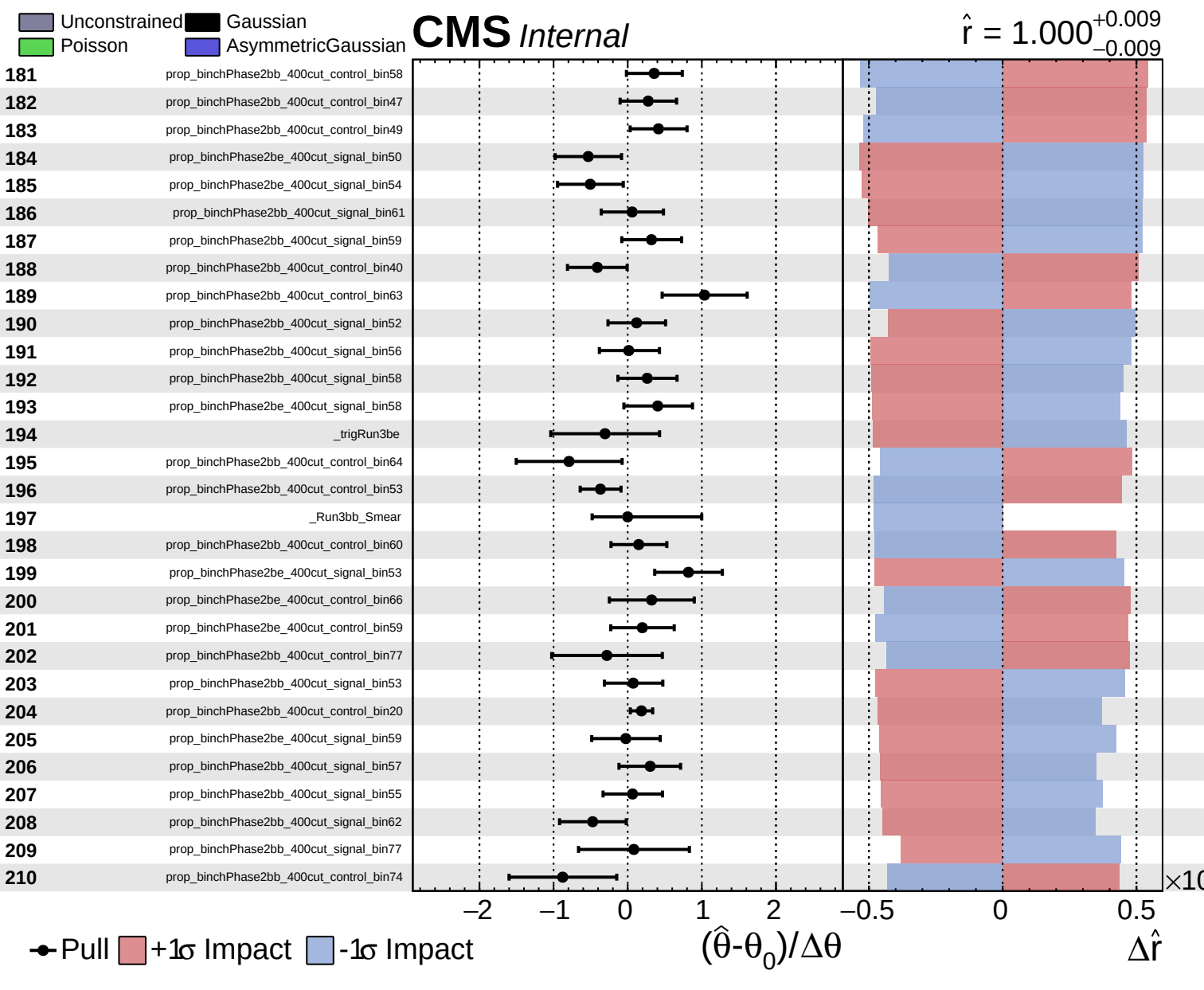

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 1.000 +0.009 −0.009
31 prop_binchPhase2bb_400cut_control_bin31
32 prop_binchPhase2bb_400cut_signal_bin12
33 prop_binchPhase2bb_400cut_signal_bin1
34 prop_binchPhase2be_400cut_control_bin37
35 prop_binchPhase2bb_400cut_signal_bin13
36 prop_binchPhase2bb_400cut_signal_bin15
37 prop_binchPhase2be_400cut_control_bin1
38 _Run3bb_eff
39 prop_binchPhase2bb_400cut_control_bin21
40 prop_binchPhase2bb_400cut_control_bin25
41 prop_binchPhase2be_400cut_control_bin40
42 prop_binchPhase2be_400cut_signal_bin19
43 prop_binchPhase2bb_400cut_signal_bin16
44 prop_binchPhase2be_400cut_control_bin4
45 prop_binchPhase2bb_400cut_signal_bin17
46 prop_binchPhase2be_400cut_control_bin5
47 prop_binchPhase2be_400cut_control_bin27
48 prop_binchPhase2be_400cut_control_bin39
49 prop_binchPhase2be_400cut_control_bin31
50 prop_binchPhase2be_400cut_control_bin14
51 prop_binchPhase2be_400cut_control_bin7
52 prop_binchPhase2bb_400cut_signal_bin18
53 prop_binchPhase2bb_400cut_control_bin14
54 prop_binchPhase2be_400cut_control_bin33
55 prop_binchPhase2bb_400cut_signal_bin19
56 _Run3be_elMassScale
57 _Run3bb_elMassScale
58 prop_binchPhase2bb_400cut_control_bin13
59 prop_binchPhase2bb_400cut_signal_bin20
60 prop_binchPhase2be_400cut_control_bin15
−2 −1 0 1 2
−0.002 −0.001 0 0.001 0.002
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂

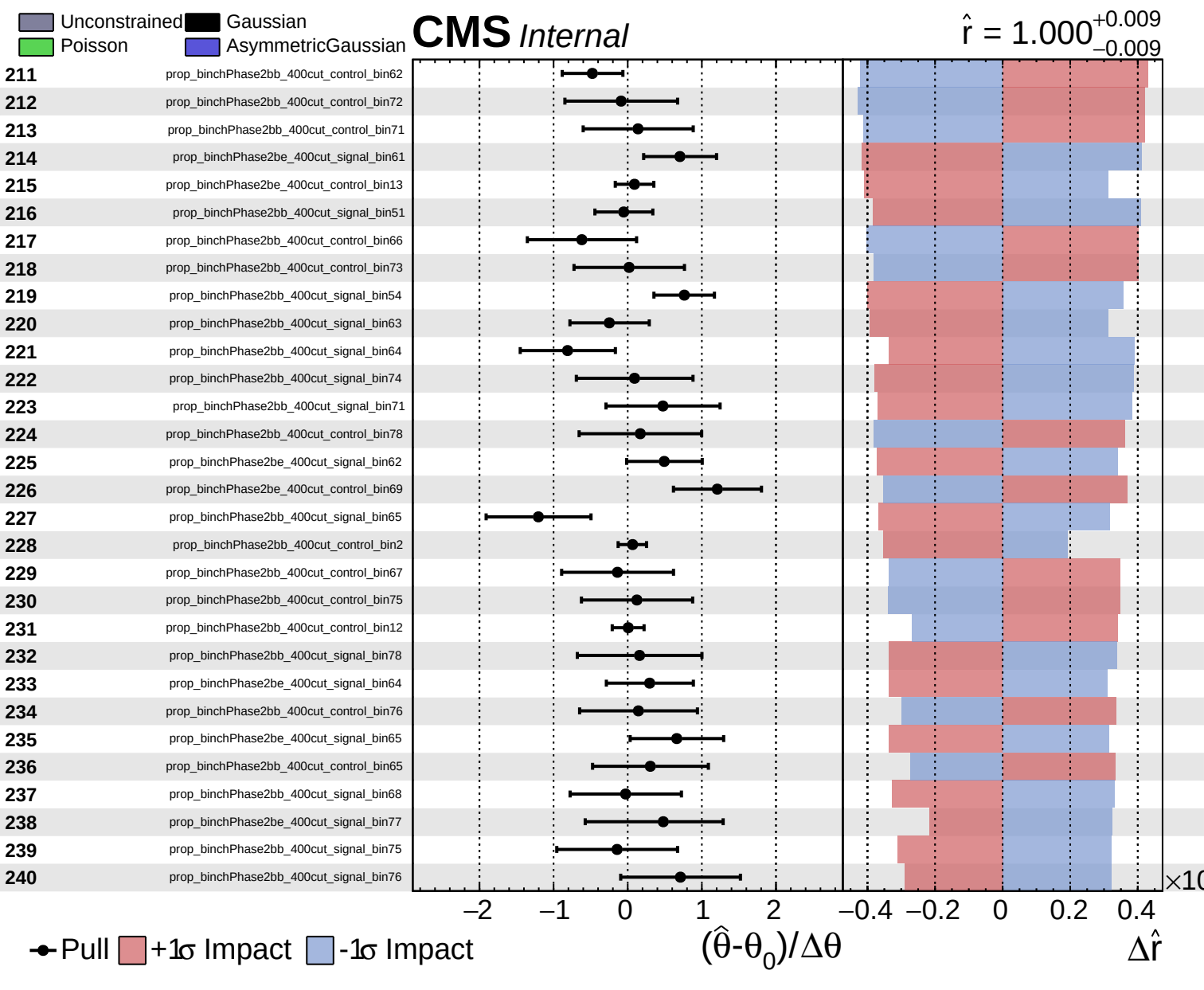

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 1.000 +0.009 −0.009
61 prop_binchPhase2be_400cut_control_bin23
62 prop_binchPhase2be_400cut_control_bin18
63 prop_binchPhase2bb_400cut_control_bin33
64 _Run3bb_PUScale
65 prop_binchPhase2bb_400cut_control_bin11
66 prop_binchPhase2be_400cut_control_bin56
67 prop_binchPhase2bb_400cut_signal_bin21
68 prop_binchPhase2bb_400cut_control_bin10
69 prop_binchPhase2be_400cut_control_bin41
70 prop_binchPhase2bb_400cut_control_bin17
71 prop_binchPhase2be_400cut_control_bin49
72 prop_binchPhase2be_400cut_control_bin45
73 prop_binchPhase2be_400cut_control_bin36
74 prop_binchPhase2be_400cut_control_bin46
75 prop_binchPhase2bb_400cut_signal_bin22
76 prop_binchPhase2bb_400cut_control_bin8
77 prop_binchPhase2bb_400cut_control_bin18
78 prop_binchPhase2be_400cut_control_bin12
79 prop_binchPhase2be_400cut_control_bin42
80 prop_binchPhase2bb_400cut_control_bin6
81 prop_binchPhase2bb_400cut_control_bin3
82 prop_binchPhase2be_400cut_control_bin47
83 prop_binchPhase2bb_400cut_control_bin1
84 prop_binchPhase2be_400cut_control_bin22
85 prop_binchPhase2bb_400cut_control_bin32
86 prop_binchPhase2bb_400cut_control_bin5
87 prop_binchPhase2be_400cut_control_bin38
88 prop_binchPhase2bb_400cut_control_bin23
89 prop_binchPhase2be_400cut_control_bin53
90 prop_binchPhase2be_400cut_control_bin57
−2
−1
0
1
2
−0.001
0
0.001
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂

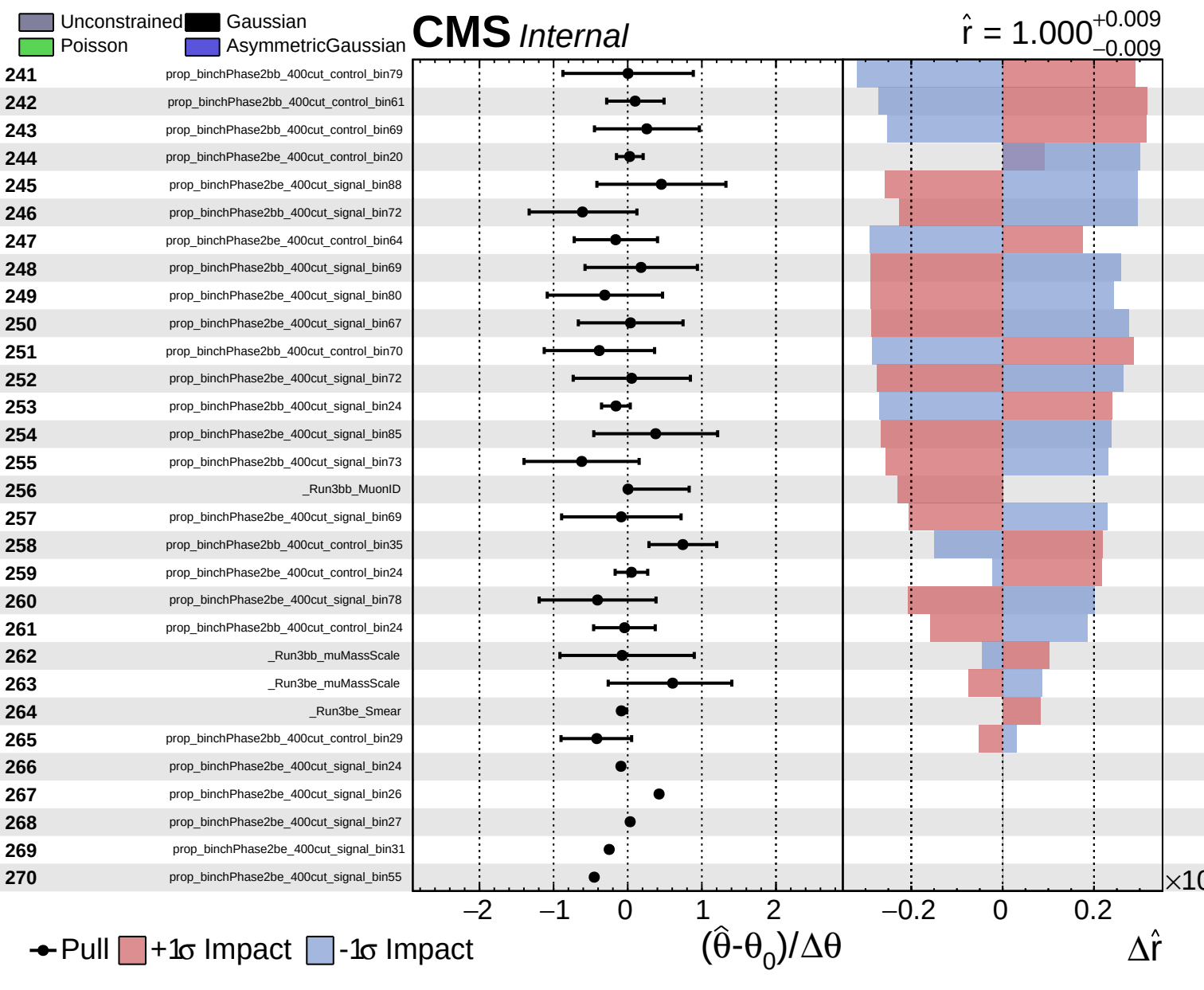

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 1.000 +0.009 −0.009
91 prop_binchPhase2bb_400cut_signal_bin23
92 prop_binchPhase2be_400cut_control_bin61
93 prop_binchPhase2bb_400cut_control_bin41
94 prop_binchPhase2bb_400cut_control_bin19
95 prop_binchPhase2be_400cut_control_bin52
96 prop_binchPhase2be_400cut_control_bin35
97 prop_binchPhase2be_400cut_control_bin75
98 prop_binchPhase2be_400cut_control_bin11
99 prop_binchPhase2be_400cut_control_bin48
100 prop_binchPhase2be_400cut_control_bin51
101 prop_binchPhase2bb_400cut_control_bin15
102 prop_binchPhase2be_400cut_control_bin55
103 prop_binchPhase2bb_400cut_signal_bin28
104 prop_binchPhase2bb_400cut_control_bin46
105 _Run3be_MuonID
106 prop_binchPhase2bb_400cut_control_bin45
107 prop_binchPhase2bb_400cut_signal_bin27
108 prop_binchPhase2bb_400cut_control_bin38
109 prop_binchPhase2bb_400cut_signal_bin26
110 prop_binchPhase2be_400cut_control_bin76
111 prop_binchPhase2bb_400cut_signal_bin31
112 prop_binchPhase2bb_400cut_control_bin37
113 prop_binchPhase2be_400cut_control_bin67
114 prop_binchPhase2be_400cut_control_bin58
115 prop_binchPhase2be_400cut_control_bin50
116 prop_binchPhase2be_400cut_control_bin63
117 prop_binchPhase2be_400cut_control_bin68
118 prop_binchPhase2bb_400cut_control_bin48
119 prop_binchPhase2be_400cut_control_bin74
120 prop_binchPhase2bb_400cut_control_bin39
−2 −1 0 1 2
−0.001 −0.0005 0 0.0005 0.001
Pull +1σ Impact -1σ Impact
(θ̂-θ0)/Δθ
Δr̂

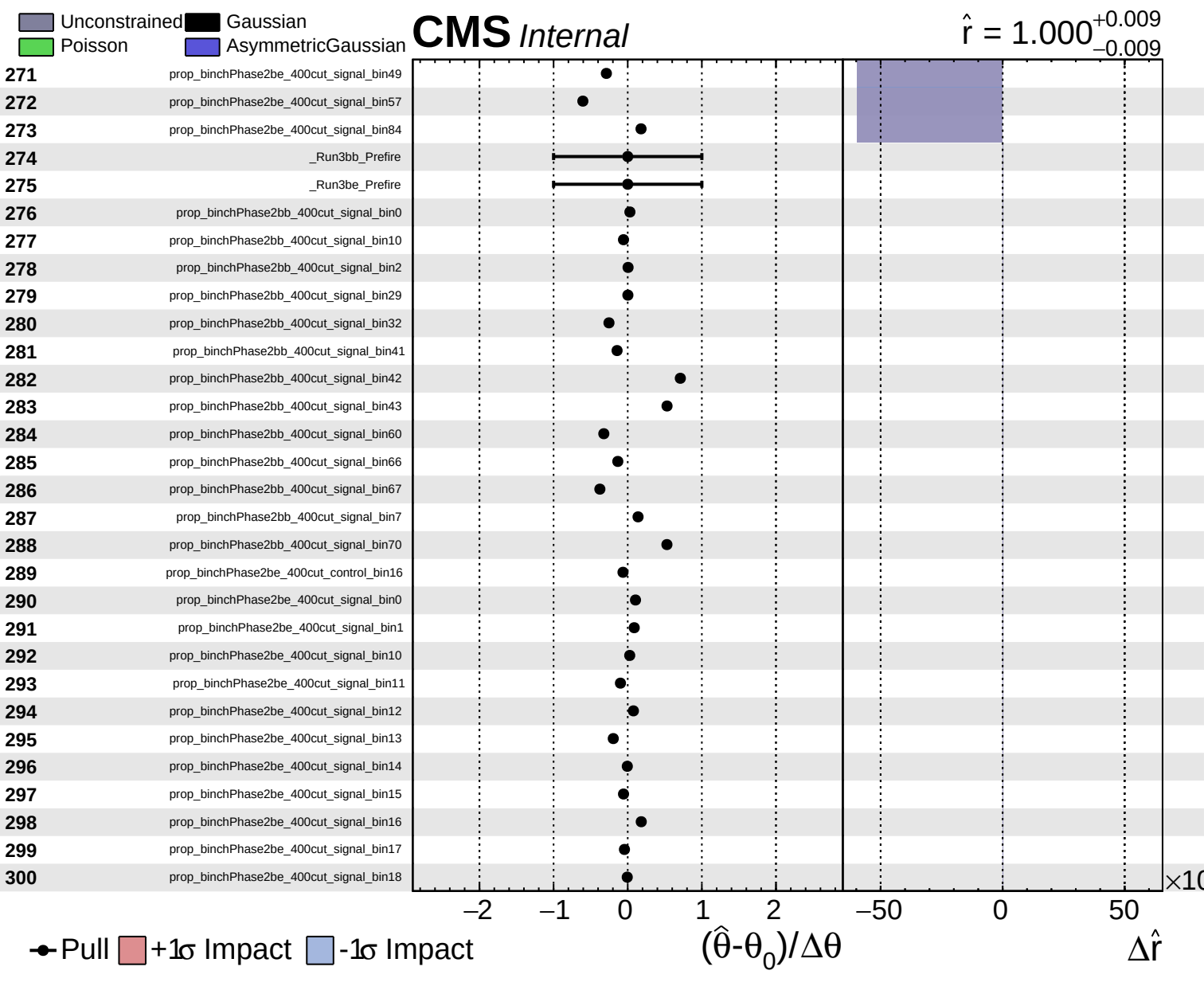

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 1.000 +0.009 −0.009
121 prop_binchPhase2bb_400cut_control_bin50
122 prop_binchPhase2bb_400cut_control_bin36
123 prop_binchPhase2be_400cut_control_bin70
124 prop_binchPhase2be_400cut_signal_bin35
125 prop_binchPhase2be_400cut_control_bin43
126 prop_binchPhase2bb_400cut_signal_bin30
127 prop_binchPhase2bb_400cut_signal_bin36
128 prop_binchPhase2bb_400cut_control_bin59
129 prop_binchPhase2bb_400cut_signal_bin33
130 prop_binchPhase2be_400cut_control_bin73
131 prop_binchPhase2bb_400cut_control_bin7
132 prop_binchPhase2bb_400cut_signal_bin35
133 prop_binchPhase2bb_400cut_control_bin22
134 prop_binchPhase2bb_400cut_signal_bin38
135 prop_binchPhase2be_400cut_control_bin60
136 prop_binchPhase2be_400cut_control_bin77
137 prop_binchPhase2be_400cut_control_bin8
138 prop_binchPhase2bb_400cut_control_bin16
139 prop_binchPhase2be_400cut_signal_bin34
140 prop_binchPhase2be_400cut_control_bin54
141 prop_binchPhase2bb_400cut_control_bin44
142 prop_binchPhase2bb_400cut_control_bin56
143 prop_binchPhase2bb_400cut_signal_bin34
144 prop_binchPhase2be_400cut_control_bin44
145 prop_binchPhase2bb_400cut_signal_bin25
146 prop_binchPhase2bb_400cut_signal_bin37
147 prop_binchPhase2bb_400cut_control_bin51
148 prop_binchPhase2be_400cut_control_bin3
149 prop_binchPhase2be_400cut_signal_bin36
150 prop_binchPhase2bb_400cut_control_bin55
−2
−1
0
1
2
−0.5
0
0.5
×10
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂

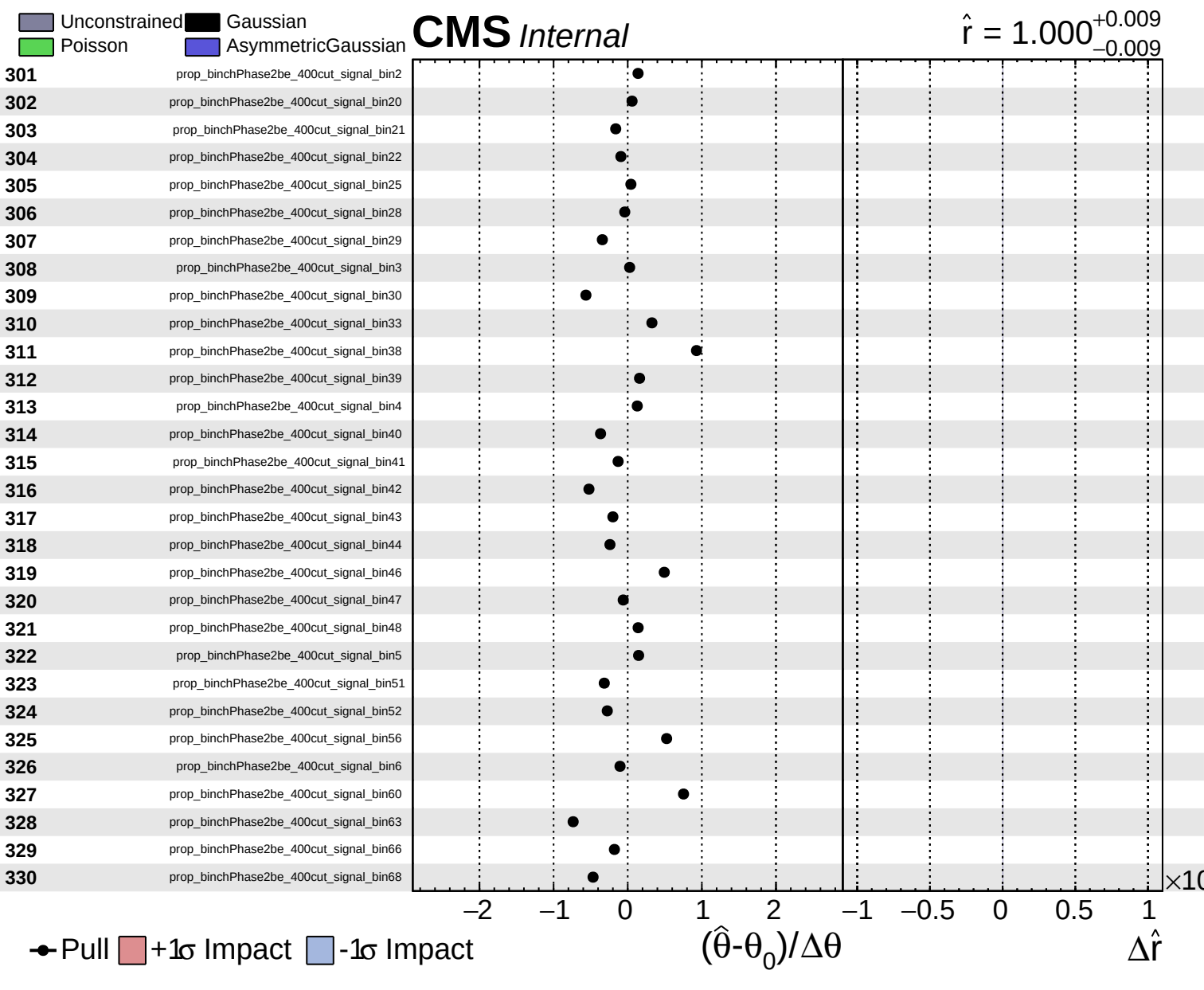

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 1.000 +0.009 −0.009
151 prop_binchPhase2be_400cut_control_bin62
152 prop_binchPhase2be_400cut_control_bin65
153 prop_binchPhase2bb_400cut_signal_bin44
154 prop_binchPhase2bb_400cut_control_bin57
155 prop_binchPhase2be_400cut_signal_bin32
156 prop_binchPhase2bb_400cut_control_bin43
157 prop_binchPhase2be_400cut_control_bin72
158 prop_binchPhase2bb_400cut_signal_bin49
159 prop_binchPhase2bb_400cut_signal_bin39
160 prop_binchPhase2be_400cut_signal_bin37
161 prop_binchPhase2be_400cut_control_bin6
162 prop_binchPhase2bb_400cut_control_bin42
163 prop_binchPhase2bb_400cut_signal_bin40
164 prop_binchPhase2bb_400cut_control_bin68
165 prop_binchPhase2bb_400cut_signal_bin47
166 prop_binchPhase2bb_400cut_control_bin52
167 prop_binchPhase2bb_400cut_control_bin4
168 prop_binchPhase2be_400cut_control_bin10
169 prop_binchPhase2bb_400cut_control_bin54
170 prop_binchPhase2bb_400cut_signal_bin48
171 prop_binchPhase2bb_400cut_control_bin0
172 prop_binchPhase2bb_400cut_signal_bin46
173 prop_binchPhase2bb_400cut_signal_bin50
174 prop_binchPhase2bb_400cut_control_bin27
175 prop_binchPhase2be_400cut_signal_bin23
176 prop_binchPhase2bb_400cut_control_bin9
177 prop_binchPhase2bb_400cut_signal_bin45
178 prop_binchPhase2be_400cut_signal_bin45
179 prop_binchPhase2be_400cut_control_bin71
180 prop_binchPhase2bb_400cut_control_bin34
−2 −1 0 1 2
−0.5 0 0.5
×10
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂

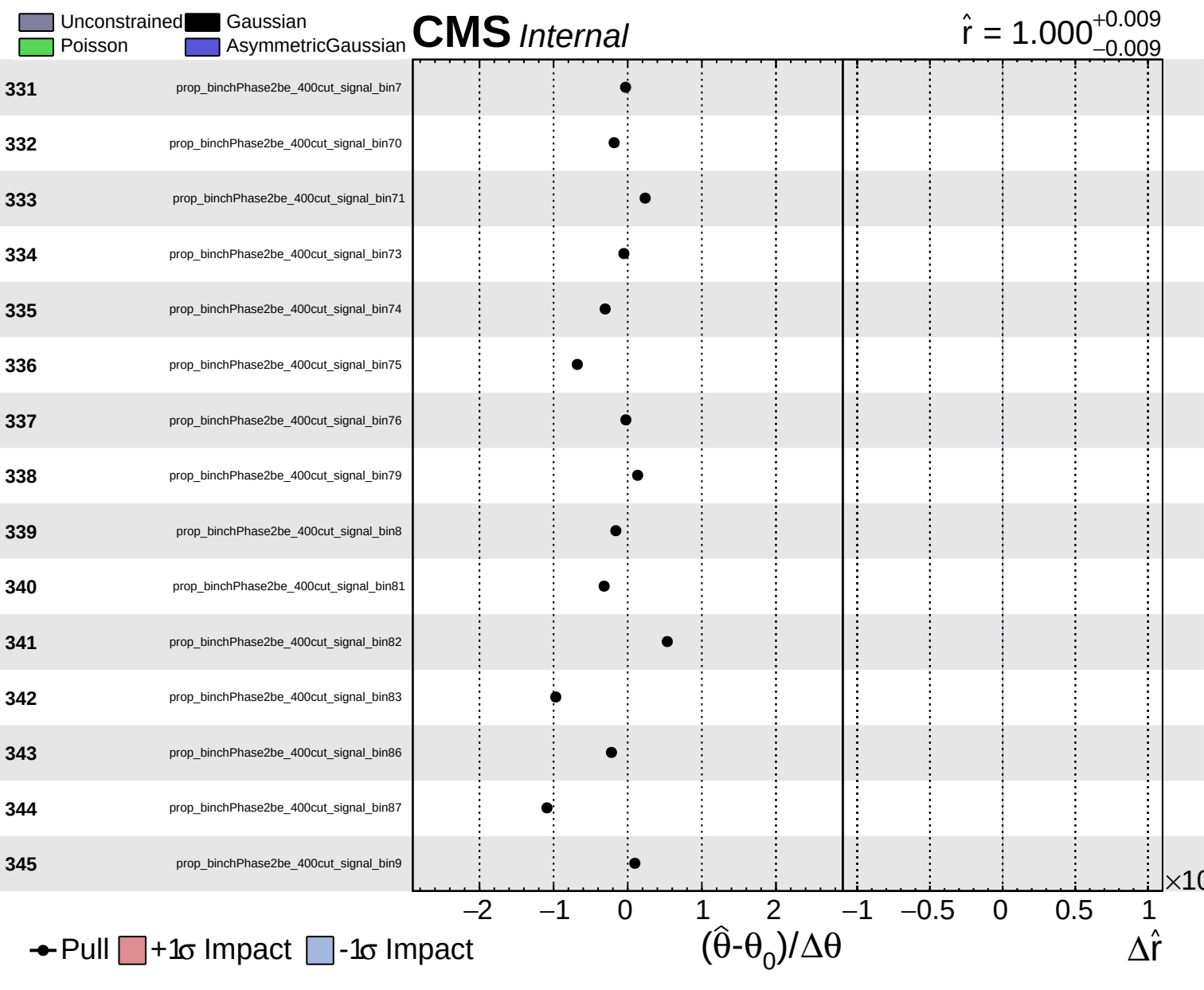

Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 1.000 +0.009 −0.009
181 prop_binchPhase2bb_400cut_control_bin58
182 prop_binchPhase2bb_400cut_control_bin47
183 prop_binchPhase2bb_400cut_control_bin49
184 prop_binchPhase2be_400cut_signal_bin50
185 prop_binchPhase2be_400cut_signal_bin54
186 prop_binchPhase2bb_400cut_signal_bin61
187 prop_binchPhase2bb_400cut_signal_bin59
188 prop_binchPhase2bb_400cut_control_bin40
189 prop_binchPhase2bb_400cut_control_bin63
190 prop_binchPhase2bb_400cut_signal_bin52
191 prop_binchPhase2bb_400cut_signal_bin56
192 prop_binchPhase2bb_400cut_signal_bin58
193 prop_binchPhase2be_400cut_signal_bin58
194 _trigRun3be
195 prop_binchPhase2bb_400cut_control_bin64
196 prop_binchPhase2bb_400cut_control_bin53
197 _Run3bb_Smear
198 prop_binchPhase2bb_400cut_control_bin60
199 prop_binchPhase2be_400cut_signal_bin53
200 prop_binchPhase2be_400cut_control_bin66
201 prop_binchPhase2be_400cut_control_bin59
202 prop_binchPhase2bb_400cut_control_bin77
203 prop_binchPhase2bb_400cut_signal_bin53
204 prop_binchPhase2bb_400cut_control_bin20
205 prop_binchPhase2be_400cut_signal_bin59
206 prop_binchPhase2bb_400cut_signal_bin57
207 prop_binchPhase2bb_400cut_signal_bin55
208 prop_binchPhase2bb_400cut_signal_bin62
209 prop_binchPhase2bb_400cut_signal_bin77
210 prop_binchPhase2bb_400cut_control_bin74
−2 −1 0 1 2
−0.5 0 0.5
×10
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 1.000 +0.009 −0.009
211 prop_binchPhase2bb_400cut_control_bin62
212 prop_binchPhase2bb_400cut_control_bin72
213 prop_binchPhase2bb_400cut_control_bin71
214 prop_binchPhase2be_400cut_signal_bin61
215 prop_binchPhase2be_400cut_control_bin13
216 prop_binchPhase2bb_400cut_signal_bin51
217 prop_binchPhase2bb_400cut_control_bin66
218 prop_binchPhase2bb_400cut_control_bin73
219 prop_binchPhase2bb_400cut_signal_bin54
220 prop_binchPhase2bb_400cut_signal_bin63
221 prop_binchPhase2bb_400cut_signal_bin64
222 prop_binchPhase2bb_400cut_signal_bin74
223 prop_binchPhase2bb_400cut_signal_bin71
224 prop_binchPhase2bb_400cut_control_bin78
225 prop_binchPhase2be_400cut_signal_bin62
226 prop_binchPhase2be_400cut_control_bin69
227 prop_binchPhase2bb_400cut_signal_bin65
228 prop_binchPhase2bb_400cut_control_bin2
229 prop_binchPhase2bb_400cut_control_bin67
230 prop_binchPhase2bb_400cut_control_bin75
231 prop_binchPhase2bb_400cut_control_bin12
232 prop_binchPhase2bb_400cut_signal_bin78
233 prop_binchPhase2be_400cut_signal_bin64
234 prop_binchPhase2bb_400cut_control_bin76
235 prop_binchPhase2be_400cut_signal_bin65
236 prop_binchPhase2bb_400cut_control_bin65
237 prop_binchPhase2bb_400cut_signal_bin68
238 prop_binchPhase2be_400cut_signal_bin77
239 prop_binchPhase2bb_400cut_signal_bin75
240 prop_binchPhase2bb_400cut_signal_bin76
−2 −1 0 1 2
−0.4 −0.2 0 0.2 0.4
×10
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 1.000 +0.009 −0.009
241 prop_binchPhase2bb_400cut_control_bin79
242 prop_binchPhase2bb_400cut_control_bin61
243 prop_binchPhase2bb_400cut_control_bin69
244 prop_binchPhase2be_400cut_control_bin20
245 prop_binchPhase2be_400cut_signal_bin88
246 prop_binchPhase2bb_400cut_signal_bin72
247 prop_binchPhase2be_400cut_control_bin64
248 prop_binchPhase2bb_400cut_signal_bin69
249 prop_binchPhase2be_400cut_signal_bin80
250 prop_binchPhase2be_400cut_signal_bin67
251 prop_binchPhase2bb_400cut_control_bin70
252 prop_binchPhase2be_400cut_signal_bin72
253 prop_binchPhase2bb_400cut_signal_bin24
254 prop_binchPhase2be_400cut_signal_bin85
255 prop_binchPhase2bb_400cut_signal_bin73
256 _Run3bb_MuonID
257 prop_binchPhase2be_400cut_signal_bin69
258 prop_binchPhase2bb_400cut_control_bin35
259 prop_binchPhase2be_400cut_control_bin24
260 prop_binchPhase2be_400cut_signal_bin78
261 prop_binchPhase2bb_400cut_control_bin24
262 _Run3bb_muMassScale
263 _Run3be_muMassScale
264 _Run3be_Smear
265 prop_binchPhase2bb_400cut_control_bin29
266 prop_binchPhase2be_400cut_signal_bin24
267 prop_binchPhase2be_400cut_signal_bin26
268 prop_binchPhase2be_400cut_signal_bin27
269 prop_binchPhase2be_400cut_signal_bin31
270 prop_binchPhase2be_400cut_signal_bin55
−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 = 1.000 +0.009 −0.009
271 prop_binchPhase2be_400cut_signal_bin49
272 prop_binchPhase2be_400cut_signal_bin57
273 prop_binchPhase2be_400cut_signal_bin84
274 _Run3bb_Prefire
275 _Run3be_Prefire
276 prop_binchPhase2bb_400cut_signal_bin0
277 prop_binchPhase2bb_400cut_signal_bin10
278 prop_binchPhase2bb_400cut_signal_bin2
279 prop_binchPhase2bb_400cut_signal_bin29
280 prop_binchPhase2bb_400cut_signal_bin32
281 prop_binchPhase2bb_400cut_signal_bin41
282 prop_binchPhase2bb_400cut_signal_bin42
283 prop_binchPhase2bb_400cut_signal_bin43
284 prop_binchPhase2bb_400cut_signal_bin60
285 prop_binchPhase2bb_400cut_signal_bin66
286 prop_binchPhase2bb_400cut_signal_bin67
287 prop_binchPhase2bb_400cut_signal_bin7
288 prop_binchPhase2bb_400cut_signal_bin70
289 prop_binchPhase2be_400cut_control_bin16
290 prop_binchPhase2be_400cut_signal_bin0
291 prop_binchPhase2be_400cut_signal_bin1
292 prop_binchPhase2be_400cut_signal_bin10
293 prop_binchPhase2be_400cut_signal_bin11
294 prop_binchPhase2be_400cut_signal_bin12
295 prop_binchPhase2be_400cut_signal_bin13
296 prop_binchPhase2be_400cut_signal_bin14
297 prop_binchPhase2be_400cut_signal_bin15
298 prop_binchPhase2be_400cut_signal_bin16
299 prop_binchPhase2be_400cut_signal_bin17
300 prop_binchPhase2be_400cut_signal_bin18
−2
−1
0
1
2
−50
0
50
×10
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 1.000 +0.009 −0.009
301 prop_binchPhase2be_400cut_signal_bin2
302 prop_binchPhase2be_400cut_signal_bin20
303 prop_binchPhase2be_400cut_signal_bin21
304 prop_binchPhase2be_400cut_signal_bin22
305 prop_binchPhase2be_400cut_signal_bin25
306 prop_binchPhase2be_400cut_signal_bin28
307 prop_binchPhase2be_400cut_signal_bin29
308 prop_binchPhase2be_400cut_signal_bin3
309 prop_binchPhase2be_400cut_signal_bin30
310 prop_binchPhase2be_400cut_signal_bin33
311 prop_binchPhase2be_400cut_signal_bin38
312 prop_binchPhase2be_400cut_signal_bin39
313 prop_binchPhase2be_400cut_signal_bin4
314 prop_binchPhase2be_400cut_signal_bin40
315 prop_binchPhase2be_400cut_signal_bin41
316 prop_binchPhase2be_400cut_signal_bin42
317 prop_binchPhase2be_400cut_signal_bin43
318 prop_binchPhase2be_400cut_signal_bin44
319 prop_binchPhase2be_400cut_signal_bin46
320 prop_binchPhase2be_400cut_signal_bin47
321 prop_binchPhase2be_400cut_signal_bin48
322 prop_binchPhase2be_400cut_signal_bin5
323 prop_binchPhase2be_400cut_signal_bin51
324 prop_binchPhase2be_400cut_signal_bin52
325 prop_binchPhase2be_400cut_signal_bin56
326 prop_binchPhase2be_400cut_signal_bin6
327 prop_binchPhase2be_400cut_signal_bin60
328 prop_binchPhase2be_400cut_signal_bin63
329 prop_binchPhase2be_400cut_signal_bin66
330 prop_binchPhase2be_400cut_signal_bin68
−2 −1 0 1 2
−1 −0.5 0 0.5 1
×10
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂


Unconstrained
Gaussian
Poisson
AsymmetricGaussian
CMS Internal
r̂ = 1.000 +0.009 −0.009
331 prop_binchPhase2be_400cut_signal_bin7
332 prop_binchPhase2be_400cut_signal_bin70
333 prop_binchPhase2be_400cut_signal_bin71
334 prop_binchPhase2be_400cut_signal_bin73
335 prop_binchPhase2be_400cut_signal_bin74
336 prop_binchPhase2be_400cut_signal_bin75
337 prop_binchPhase2be_400cut_signal_bin76
338 prop_binchPhase2be_400cut_signal_bin79
339 prop_binchPhase2be_400cut_signal_bin8
340 prop_binchPhase2be_400cut_signal_bin81
341 prop_binchPhase2be_400cut_signal_bin82
342 prop_binchPhase2be_400cut_signal_bin83
343 prop_binchPhase2be_400cut_signal_bin86
344 prop_binchPhase2be_400cut_signal_bin87
345 prop_binchPhase2be_400cut_signal_bin9
−2 −1 0 1 2
−1 −0.5 0 0.5 1
×10
Pull
+1σ Impact
-1σ Impact
(θ̂-θ0)/Δθ
Δr̂