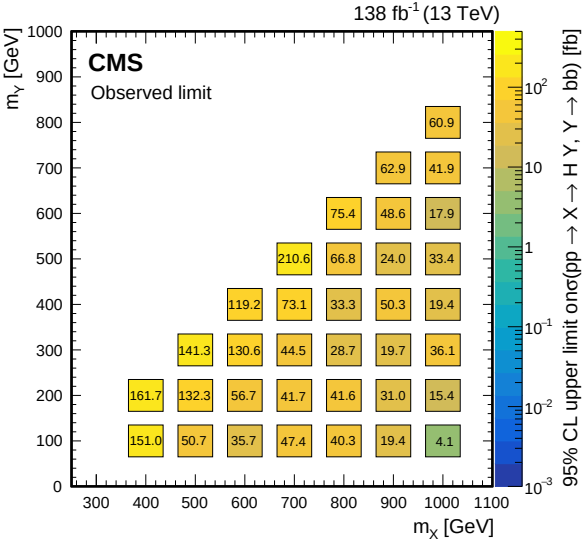
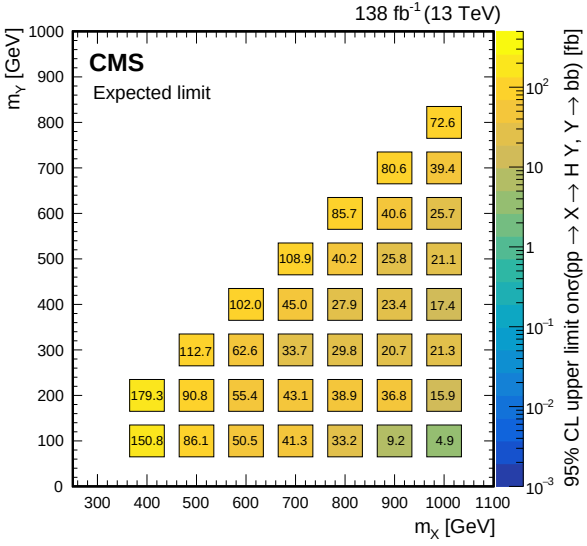
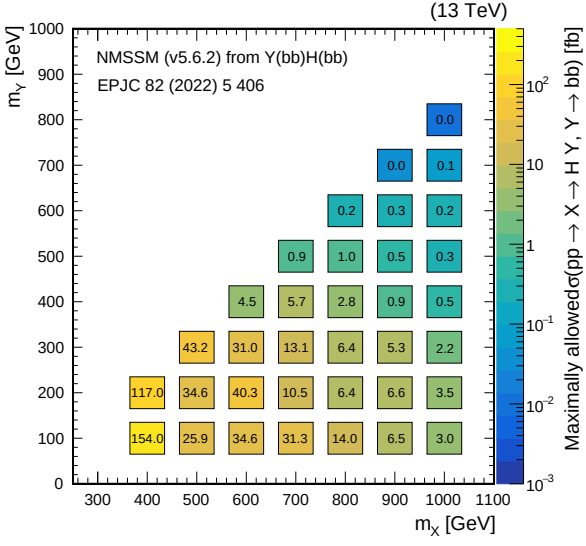

138 fb^{-1} (13 TeV)
CMS
Observed limit
m_Y [GeV]
m_X [GeV]
95% CL upper limit on σ(pp → X → H Y, Y → bb) [fb]
60.9
62.9 41.9
75.4 48.6 17.9
210.6 66.8 24.0 33.4
119.2 73.1 33.3 50.3 19.4
141.3 130.6 44.5 28.7 19.7 36.1
161.7 132.3 56.7 41.7 41.6 31.0 15.4
151.0 50.7 35.7 47.4 40.3 19.4 4.1


138 fb^{-1} (13 TeV)
CMS
Expected limit
m_Y [GeV]
m_X [GeV]
95% CL upper limit on σ(pp → X → H Y, Y → bb) [fb]
72.6
80.6 39.4
85.7 40.6 25.7
108.9 40.2 25.8 21.1
102.0 45.0 27.9 23.4 17.4
112.7 62.6 33.7 29.8 20.7 21.3
179.3 90.8 55.4 43.1 38.9 36.8 15.9
150.8 86.1 50.5 41.3 33.2 9.2 4.9


(13 TeV)
NMSSM (v5.6.2) from Y(bb)H(bb)
EPJC 82 (2022) 5 406
m_Y [GeV]
m_X [GeV]
Maximally allowed σ(pp → X → H Y, Y → bb) [fb]
0.0
0.0 0.1
0.2 0.3 0.2
0.9 1.0 0.5 0.3
4.5 5.7 2.8 0.9 0.5
43.2 31.0 13.1 6.4 5.3 2.2
117.0 34.6 40.3 10.5 6.4 6.6 3.5
154.0 25.9 34.6 31.3 14.0 6.5 3.0