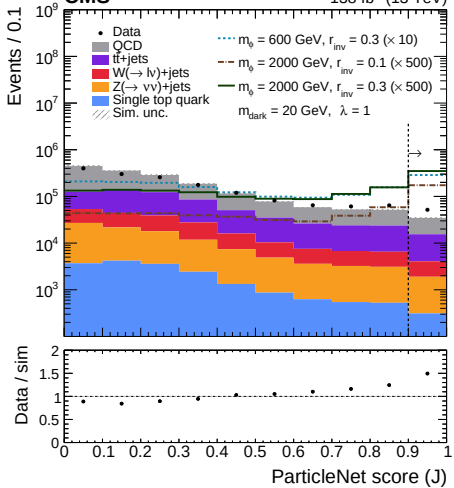
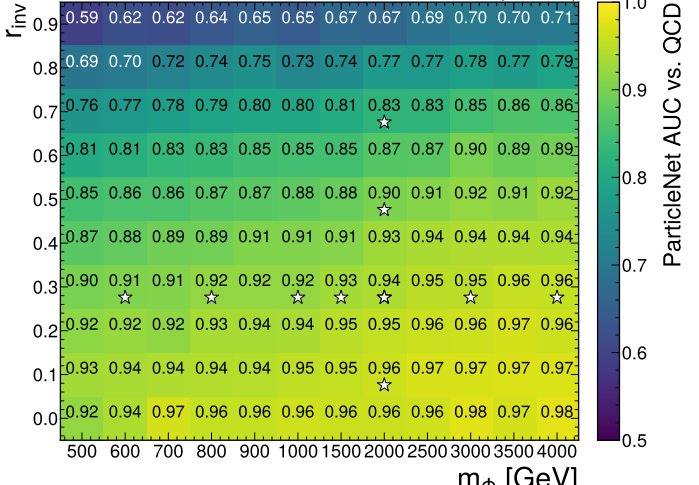

CMS
138 fb-1 (13 TeV)
Events / 0.1
Data
QCD
tt+jets
W(→ lν)+jets
Z(→ νν)+jets
Single top quark
Sim. unc.
mϕ = 600 GeV, rinv = 0.3 (× 10)
mϕ = 2000 GeV, rinv = 0.1 (× 500)
mϕ = 2000 GeV, rinv = 0.3 (× 500)
mdark = 20 GeV, λ = 1
Data / sim
ParticleNet score (J)


CMS Simulation
(13 TeV)
rinv
0.9 0.59 0.62 0.62 0.64 0.65 0.65 0.67 0.67 0.69 0.70 0.70 0.71
0.8 0.69 0.70 0.72 0.74 0.75 0.73 0.74 0.77 0.77 0.78 0.77 0.79
0.7 0.76 0.77 0.78 0.79 0.80 0.80 0.81 0.83 0.83 0.85 0.86 0.86
0.6 0.81 0.81 0.83 0.83 0.85 0.85 0.85 0.87 0.87 0.90 0.89 0.89
0.5 0.85 0.86 0.86 0.87 0.87 0.88 0.88 0.90 0.91 0.92 0.91 0.92
0.4 0.87 0.88 0.89 0.89 0.91 0.91 0.91 0.93 0.94 0.94 0.94 0.94
0.3 0.90 0.91 0.91 0.92 0.92 0.92 0.93 0.94 0.95 0.95 0.96 0.96
0.2 0.92 0.92 0.92 0.93 0.94 0.94 0.95 0.95 0.96 0.96 0.97 0.96
0.1 0.93 0.94 0.94 0.94 0.94 0.95 0.95 0.96 0.97 0.97 0.97 0.97
0.0 0.92 0.94 0.97 0.96 0.96 0.96 0.96 0.96 0.96 0.98 0.97 0.98
500 600 700 800 900 1000 1500 2000 2500 3000 3500 4000
mϕ [GeV]
ParticleNet AUC vs. QCD
1.0 0.9 0.8 0.7 0.6 0.5