

Algorithm	Requirements (p_T , E_T , $m_{\mu\mu}$, and m_{jj} in GeV)
<i>Muons</i>	
Single μ	$p_T > 22$ & Tight quality
Double μ	$p_T > 15,7$ & Medium quality
Double μ	$p_T > 15,5$ & Tight quality
Double μ	$p_T > 8,8$ & Tight quality
Double μ + mass	$p_T > 4.5$ & $ \eta < 2.0$ & Tight quality & OS & $m_{\mu\mu} > 7$
Double μ + ΔR	$p_T > 4$ & Tight quality & OS & $\Delta R < 1.2$
Double μ + ΔR	$p_T > 0$ & $ \eta < 1.5$ & Tight quality & OS & $\Delta R < 1.4$
Double μ + BX	$p_T > 0$ & $ \eta < 1.4$ & Medium quality & Non-colliding BX
Triple μ	$p_T > 5,3,3$ & Medium quality
Triple μ	$p_T > 3,3,3$ & Tight quality
Triple μ + mass	$p_T > 5,3.5,2.5$ & Med. qual.; two μ OS & $p_T > 5,2.5$ & $5 < m_{\mu\mu} < 17$
Triple μ + mass	Three μ any qual.; two μ & $p_T > 5,3$ & Tight qual. & OS & $m_{\mu\mu} < 9$
<i>Electrons / photons</i> (e/ γ)	
Single e/ γ	$p_T > 60$
Single e/ γ	$p_T > 36$ & $ \eta < 2.5$
Single e/ γ	$p_T > 28$ & $ \eta < 2.5$ & Loose isolation
Double e/ γ	$p_T > 25,12$ & $ \eta < 2.5$
Double e/ γ	$p_T > 22,12$ & $ \eta < 2.5$ & Loose isolation
Triple e/ γ	$p_T > 18,17,8$ & $ \eta < 2.5$
Triple e/ γ	$p_T > 16,16,16$ & $ \eta < 2.5$
<i>Tau leptons</i> (τ)	
Single τ	$p_T > 120$ & $ \eta < 2.1$
Double τ	$p_T > 32$ & $ \eta < 2.1$ & Isolation
<i>Jets</i>	
Single jet	$p_T > 180$
Single jet + BX	$p_T > 43$ & $ \eta < 2.5$ & Non-colliding BX
Double jet	$p_T > 150$ & $ \eta < 2.5$
Double jet + $\Delta\eta$	$p_T > 112$ & $ \eta < 2.3$ & $\Delta\eta < 1.6$
Double jet + mass	$p_T > 115,35$; two jets $p_T > 35$ & $m_{jj} > 620$
Double jet + mass	$p_T > 30$ & $ \eta < 2.5$ & $\Delta\eta < 1.5$ & $m_{jj} > 300$
Triple jet	$p_T > 95,75,65$; two jets $p_T > 75,65$ & $ \eta < 2.5$
<i>Energy sums</i>	
E_T^{miss}	$E_T^{\text{miss}} > 100$ (Vector sum of p_T of calorimeter deposits with $ \eta < 5.0$)
H_T	$H_T > 360$ (Scalar sum of p_T of all jets with $p_T > 30$ and $ \eta < 2.5$)
E_T	$E_T > 2000$ (Scalar sum of p_T of calorimeter deposits with $ \eta < 5.0$)

Terms used

Tight quality: muons with hits in at least 3 different muon stations.

Medium quality: muons with hits in at least 2 different muon stations.

The "non-colliding BX" requirement selects beam-empty events.

$\Delta R \equiv ((\Delta\phi)^2 + (\Delta\eta)^2)^{1/2}$, and ϕ is the azimuthal angle in radians.

OS: Opposite Sign (of electric charge).

E_T : Scalar sum of p_T of calorimeter deposits.

H_T : Scalar sum of p_T of jets.

Isolation and loose isolation: The isolation requires an upper limit on the transverse calorimeter energy surrounding the candidate. The limit depends on the pileup, the Level-1 candidate E_T and $|\eta|$. Details are given in Sections ?? and ??.