

Kinematic properties and isolation of leptons

Leading lepton p_T	$> 20 \text{ GeV}$
Next-to-leading lepton p_T	$> 10 \text{ GeV}$
Transverse momentum of additional electrons (muons)	$> 7(5) \text{ GeV}$
Pseudorapidity of electrons (muons)	$ \eta < 2.5(2.4)$
Isolation: p_T sum of all stable particles within $\Delta R < 0.3$ from each lepton	$< 0.35 p_T^\ell$

Event topology

At least two same-flavor, opposite-charge lepton pairs	
Inv. mass of the Z_1 candidate	$40 < m(Z_1) < 120 \text{ GeV}$
Inv. mass of the Z_2 candidate	$12 < m(Z_2) < 120 \text{ GeV}$
Distance between the four selected leptons	$\Delta R(\ell_i \ell_j) > 0.02$ for any $i \neq j$
Inv. mass of any opposite-sign lepton pair	$m(\ell^+ \ell'^-) > 4 \text{ GeV}$
Inv. mass of the four selected leptons	$105 < m_{4\ell} < 160 \text{ GeV}$
The four selected leptons must originate from the $H \rightarrow 4\ell$ decay	