BDT Input Variables (v1)

Variable	Brief Description
Input variables for 4-lepton MVA	
m_{ll}^{Wcands}	Invariant mass of the W-lepton candidates
M_{T2}	Analogue of m_T for two semi-invisibly decaying particles
p_T^{miss}	Missing Transverse Energy (PuppiMET)
p_T^{4l}	Transverse momentum of the 4-lepton system
p_T^{Z1}	p_T of leading Z-candidate lepton
p_T^{Z2}	p_T of subleaing Z-candidate lepton
p_T^{W1}	p_T of leading W-candidate lepton
p_T^{W2}	p_T of subleading W-candidate lepton
$\sum_{lep,MET,jet} p_T$	Scalar sum of transverse energy in event
$\sum_{lep,MET} p_T$	Scalar sum of leptonic and missing transverse energy in event
$\Delta R(l^{Z1}, l^{Z2})$	Solid angle (in $\eta - \phi$ coordinates) difference between Z-candidate leptons
$\Delta R(l^{W1}, l^{W2})$	Solid angle (in $\eta - \phi$ coordinates) difference between W-candidate leptons
$\Delta R(WW, Z)$	Solid angle (in $\eta - \phi$ coordinates) difference between W candidate lepton system and Z boson
$\Delta\phi(WW, p_T^{miss})$	Angular separation between WW system and p_T^{miss}
$\Delta\phi(Z, p_T^{miss})$	Angular separation between Z boson and p_T^{miss}
$\Delta\phi(WWZ, p_T^{miss})$	Angular separation between the 4-lepton system and p_T^{miss}

Table 15: Input variables for 4-lepton Boosted Decision Tree.