

Analysis	Channel	Categorization	Final discriminant
HVV Approach 1	VBF (a_2)	\mathcal{D}_{int}	$[\mathcal{D}_{\text{VBF}}, m_{\ell\ell}, \mathcal{D}_{0+}]$
	VBF (a_3)	\mathcal{D}_{CP}	$[\mathcal{D}_{\text{VBF}}, m_{\ell\ell}, \mathcal{D}_{0-}]$
	VBF (κ_1)	—	$[\mathcal{D}_{\text{VBF}}, m_{\ell\ell}, \mathcal{D}_{\Lambda 1}]$
	VBF ($\kappa_2^{Z\gamma}$)	—	$[\mathcal{D}_{\text{VBF}}, m_{\ell\ell}, \mathcal{D}_{\Lambda 1}^{Z\gamma}]$
	VH (a_2)	—	$[m_{\ell\ell}, \mathcal{D}_{0+}]$
	VH (a_3)	\mathcal{D}_{CP}	$[m_{\ell\ell}, \mathcal{D}_{0-}]$
HVV Approach 2	VH (κ_1)	—	$[m_{\ell\ell}, \mathcal{D}_{\Lambda 1}]$
	VH ($\kappa_2^{Z\gamma}$)	—	$[m_{\ell\ell}, \mathcal{D}_{\Lambda 1}^{Z\gamma}]$
	0- & 1-jet ggH	—	$[m_{\text{T}}, m_{\ell\ell}]$
	VBF	$\mathcal{D}_{CP}, \mathcal{D}_{\text{int}}$	$[\mathcal{D}_{\text{VBF}}, m_{\ell\ell}, \mathcal{D}_{0-}, \mathcal{D}_{0+}]$
	VH	\mathcal{D}_{CP}	$[m_{\ell\ell}, \mathcal{D}_{0-}, \mathcal{D}_{0+}]$
	0- & 1-jet ggH	—	$[m_{\text{T}}, m_{\ell\ell}]$
Hgg	2-jet ggH	$\mathcal{D}_{CP}^{\text{ggH}}$	$[\mathcal{D}_{\text{VBF}}, \mathcal{D}_{0-}^{\text{ggH}}]$
	0- & 1-jet ggH	—	$[m_{\text{T}}, m_{\ell\ell}]$