

Table 1: Optimized event categories used in Analysis A and Analysis B.

A	0,1-Jet	Tight $p_T(\mu\mu) \geq 10 \text{ GeV}/c$	BB (Barrel-Barrel)
			BO (Barrel-Overlap)
			BE (Barrel-Endcap)
			OO (Overlap-Overlap)
			OE (Overlap-Endcap)
			EE (Endcap-Endcap)
		Loose $p_T(\mu\mu) < 10 \text{ GeV}/c$	BB
			BO
			BE
			OO
			OE
			EE
	2-Jet	VBF Tight $M(jj) > 650 \text{ GeV}/c^2$ and $ \Delta\eta(jj) > 3.5$	
		GF Tight (not VBF Tight selected) $M(jj) > 250 \text{ GeV}/c^2$ and $p_T(\mu\mu) > 50 \text{ GeV}/c$	
		Loose (not VBF Tight and not GF Tight selected)	
B	0-Jet	Tight ($p_T(\mu\mu) \geq 15 \text{ GeV}/c$)	
		Loose ($p_T(\mu\mu) < 15 \text{ GeV}/c$)	
	1-Jet	no subcategories	
	2-Jet	VBF Tight $M(jj) > 500 \text{ GeV}/c^2$ and $ \Delta\eta(jj) > 4$, for 7 TeV $ \Delta\eta(jj) > 3$	
		VBF Loose (not VBF Tight selected) $M(jj) > 300 \text{ GeV}/c^2$ and $ \Delta\eta(jj) > 3$	
		category used only for $\sqrt{s} = 8 \text{ TeV}$	
		non-VBF (not VBF Tight and not VBF Loose selected)	