

PYTHIA 8 parameter	CP5 [13]	CP5-CR1	CP5-CR2
PDF set	NNPDF3.1 NNLO	NNPDF3.1 NNLO	NNPDF3.1 NNLO
$\alpha_S(m_Z)$	0.118	0.118	0.118
SpaceShower:rapidityOrder	on	on	on
MultipartonInteractions:ecmRef [GeV]	7000	7000	7000
$\alpha_S^{\text{ISR}}(m_Z)$ value/order	0.118/NLO	0.118/NLO	0.118/NLO
$\alpha_S^{\text{FSR}}(m_Z)$ value/order	0.118/NLO	0.118/NLO	0.118/NLO
$\alpha_S^{\text{MPI}}(m_Z)$ value/order	0.118/NLO	0.118/NLO	0.118/NLO
$\alpha_S^{\text{ME}}(m_Z)$ value/order	0.118/NLO	0.118/NLO	0.118/NLO
StringZ:aLund	—	0.38	—
StringZ:bLund	—	0.64	—
StringFlav:probQQtoQ	—	0.078	—
StringFlav:probStoUD	—	0.2	—
SigmaTotal:zeroAXB	off	off	off
BeamRemnants:remnantMode	—	1	—
ColourReconnection:mode	—	1	2
MultipartonInteractions:pT0Ref [GeV]	1.410	1.375	1.454
MultipartonInteractions:ecmPow	0.033	0.033	0.054
MultipartonInteractions:coreRadius	0.763	0.605	0.649
MultipartonInteractions:coreFraction	0.630	0.445	0.489
ColourReconnection:range	5.176	—	—
ColourReconnection:junctionCorrection	—	0.238	—
ColourReconnection:timeDilationPar	—	8.580	—
ColourReconnection:m0	—	1.721	—
ColourReconnection:m2lambda	—	—	4.917
ColourReconnection:fracGluon	—	—	0.993
$N_{\text{dof}}$	183	157	158
$\chi^2/N_{\text{dof}}$	1.04	2.37	0.89