

Parameter	initial value and error	fitted value and error
alpha_MUON_Eff_stat	0.00 ± 1.00	-0.00 ± 0.99
alpha_EG_TrigEff	0.00 ± 1.00	0.00 ± 0.99
alpha_btag_Extra	0.00 ± 1.00	-0.04 ± 0.99
alpha_MUON_MS	0.00 ± 1.00	0.01 ± 0.95
alpha_EG_SCALE_ALL	0.00 ± 1.00	-0.00 ± 0.98
alpha_MUON_ID	0.00 ± 1.00	-0.01 ± 0.99
alpha_muR_muF-Diboson	0.00 ± 1.00	0.02 ± 0.98
alpha_MUON_Trig_stat	0.00 ± 1.00	0.00 ± 1.00
alpha_EG_RESOLUTION_ALL	0.00 ± 1.00	-0.03 ± 1.02
alpha_MUON_Trig_sys	0.00 ± 1.00	-0.07 ± 1.01
alpha_EG_SCALE_AF2	0.00 ± 1.00	0.00 ± 0.99
alpha_MUON_Eff_BadMuon_stat	0.00 ± 1.00	-0.00 ± 0.99
alpha_JVT	0.00 ± 1.00	-0.02 ± 1.00
alpha_MatrixElement-Top2L	0.00 ± 1.00	0.24 ± 0.96
alpha_MUON_Eff_Iso_stat	0.00 ± 1.00	0.00 ± 0.99
alpha_EG_Eff	0.00 ± 1.00	-0.02 ± 0.99
alpha_JET_Flavor_Response	0.00 ± 1.00	0.42 ± 1.08
alpha_btag_ExtraFromCharm	0.00 ± 1.00	0.00 ± 0.99
alpha_MUON_TTVA_stat	0.00 ± 1.00	-0.00 ± 0.99
alpha_MUON_Eff_Iso_sys	0.00 ± 1.00	-0.00 ± 0.99
alpha_JER_DataVsMC	0.00 ± 1.00	0.13 ± 0.99
alpha_JER_DataVsMC_AFII	0.00 ± 1.00	0.00 ± 0.99
alpha_fakesSyst	0.00 ± 1.00	-0.11 ± 1.01
gamma_stat_tW2L_CRttZ_cuts_bin_0	1.00 ± 0.03	1.00 ± 0.03
alpha_PartonShower-Top2L	0.00 ± 1.00	0.02 ± 0.99
alpha_JET_EtaInt_negEta	0.00 ± 1.00	0.00 ± 0.98
alpha_btag_BT	0.00 ± 1.00	-0.05 ± 0.99
alpha_JER_EffectiveNP_7restTerm	0.00 ± 1.00	0.22 ± 0.97
alpha_JES_Group1	0.00 ± 1.00	-0.41 ± 1.00
alpha_JES_Group3	0.00 ± 1.00	-0.01 ± 0.99
alpha_JES_Group2	0.00 ± 1.00	-0.46 ± 1.02
alpha_singletopSyst	0.00 ± 1.00	0.76 ± 0.84
alpha_fJVT	0.00 ± 1.00	-0.00 ± 0.99
alpha_MUON_Eff_BadMuon_sys	0.00 ± 1.00	-0.00 ± 0.99
alpha_ISR-Top2L	0.00 ± 1.00	0.09 ± 0.95
alpha_EG_Trig	0.00 ± 1.00	0.00 ± 0.99
Lumi	1.00 ± 0.02	1.00 ± 0.02
alpha_JET_EtaInt_highE	0.00 ± 1.00	-0.00 ± 0.99
alpha_FSR-Top2L	0.00 ± 1.00	0.01 ± 1.15
mu_tt_2L	1.00 ± 0.00	0.97 ± 0.20
Pile-up	0.00 ± 1.00	0.08 ± 1.06
alpha_MUON_TTVA_sys	0.00 ± 1.00	-0.00 ± 0.99
mu_dib	1.00 ± 0.00	0.73 ± 0.26
alpha_MUON_Eff_sys	0.00 ± 1.00	-0.00 ± 0.99
alpha_muR_muF_ttV	0.00 ± 1.00	0.05 ± 0.49
alpha_MET_SoftTrk_ResoPerp	0.00 ± 1.00	-0.05 ± 0.99
alpha_EG_Reco	0.00 ± 1.00	-0.00 ± 0.99
alpha_btag_CT	0.00 ± 1.00	-0.00 ± 0.99
mu_ttV	1.00 ± 0.00	0.86 ± 0.17
gamma_stat_tW2L_CRtt_cuts_bin_0	1.00 ± 0.01	1.00 ± 0.01
alpha_MUON_SCALE	0.00 ± 1.00	-0.01 ± 0.97
alpha_JET_RelNonClos_AFII	0.00 ± 1.00	0.00 ± 0.99
MC statistics SR2L bin 0	1.00 ± 0.08	1.03 ± 0.08
alpha_JET_EtaInt_posEta	0.00 ± 1.00	-0.00 ± 0.99
alpha_MUON_Eff_sys_lowpt	0.00 ± 1.00	-0.00 ± 0.99
alpha_btag_LightT	0.00 ± 1.00	0.00 ± 0.99
alpha_MET_SoftTrk	0.00 ± 1.00	-0.04 ± 0.98
alpha_MUON_Eff_stat_lowpt	0.00 ± 1.00	-0.00 ± 0.99
alpha_MET_SoftTrk_ResoPara	0.00 ± 1.00	-0.03 ± 0.99
alpha_JER_EffectiveNP_4	0.00 ± 1.00	0.15 ± 0.98
alpha_JER_EffectiveNP_5	0.00 ± 1.00	0.24 ± 0.97
alpha_JER_EffectiveNP_6	0.00 ± 1.00	0.23 ± 0.97
gamma_stat_tW2L_CRWZ_cuts_bin_0	1.00 ± 0.04	1.00 ± 0.04
alpha_JER_EffectiveNP_1	0.00 ± 1.00	0.40 ± 0.96
alpha_JER_EffectiveNP_2	0.00 ± 1.00	0.36 ± 0.96
alpha_JER_EffectiveNP_3	0.00 ± 1.00	0.41 ± 0.97

Table 1: Floating fit parameters for the analysis involving signal region , before (left) and after (right) the background-only fit. The quoted fit errors come from HESSE.