

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	-0.00 ± 0.99
alpha_MUON_MS	0.00 ± 1.00	-0.00 ± 0.99
alpha_EG_SCALE_ALL	0.00 ± 1.00	0.00 ± 0.99
alpha_MUON_ID	0.00 ± 1.00	-0.00 ± 0.99
alpha_muR_muF-Diboson	0.00 ± 1.00	-0.01 ± 0.99
alpha_MUON_Trig_stat	0.00 ± 1.00	-0.00 ± 0.99
alpha_EG_RESOLUTION_ALL	0.00 ± 1.00	0.00 ± 0.99
alpha_MUON_Trig_sys	0.00 ± 1.00	-0.01 ± 0.99
alpha_EG_SCALE_AFI2	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	0.00 ± 0.99
alpha_MatrixElement-Top2L	0.00 ± 1.00	0.00 ± 0.99
alpha_MUON_Eff_Iso_stat	0.00 ± 1.00	0.00 ± 0.99
alpha_EG_Eff	0.00 ± 1.00	0.00 ± 0.99
alpha_JET_Flavor_Response	0.00 ± 1.00	-0.00 ± 0.99
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	-0.00 ± 0.99
alpha_JER_DataVsMC_AFIH	0.00 ± 1.00	0.01 ± 0.99
alpha_fakesSyst	0.00 ± 1.00	0.01 ± 0.99
gamma_stat_tW2L_CRttZ_cuts_bin_0	1.00 ± 0.03	1.00 ± 0.03
alpha_PartonShower-Top2L	0.00 ± 1.00	0.01 ± 0.99
alpha_JET_EtaInt_negEta	0.00 ± 1.00	-0.00 ± 0.99
alpha_btag_BT	0.00 ± 1.00	0.00 ± 0.99
alpha_JER_EffectiveNP_7restTerm	0.00 ± 1.00	-0.00 ± 0.99
alpha_JES_Group1	0.00 ± 1.00	0.00 ± 0.99
mu_SIG	1.00 ± 0.00	0.25 ± 0.13
alpha_JES_Group3	0.00 ± 1.00	0.00 ± 0.99
alpha_JES_Group2	0.00 ± 1.00	0.01 ± 0.99
alpha_singletopSyst	0.00 ± 1.00	0.00 ± 0.99
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	0.01 ± 0.99
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	-0.00 ± 0.99
mu_tt_2L	1.00 ± 0.00	1.00 ± 0.22
Pile-up	0.00 ± 1.00	-0.00 ± 0.99
alpha_MUON_TTVA_sys	0.00 ± 1.00	0.00 ± 0.99
mu_dib	1.00 ± 0.00	0.75 ± 0.26
alpha_MUON_Eff_sys	0.00 ± 1.00	0.00 ± 0.99
alpha_muR_muF_ttV	0.00 ± 1.00	-0.02 ± 1.05
alpha_MET_SoftTrk_ResoPerp	0.00 ± 1.00	0.00 ± 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	0.81 ± 0.15
gamma_stat_tW2L_CRtt_cuts_bin_0	1.00 ± 0.01	1.00 ± 0.01
alpha_MUON_SCALE	0.00 ± 1.00	0.00 ± 0.99
alpha_JET_RelNonClos_AFIH	0.00 ± 1.00	-0.00 ± 0.99
MC statistics SR2L bin 0	1.00 ± 0.03	1.00 ± 0.03
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	-0.00 ± 0.99
alpha_MUON_Eff_stat_lowpt	0.00 ± 1.00	0.00 ± 0.99
alpha_MET_SoftTrk_ResoPara	0.00 ± 1.00	-0.00 ± 0.99
alpha_JER_EffectiveNP_4	0.00 ± 1.00	0.00 ± 0.99
alpha_JER_EffectiveNP_5	0.00 ± 1.00	-0.00 ± 0.99
alpha_JER_EffectiveNP_6	0.00 ± 1.00	-0.00 ± 0.99
gamma_stat_tW2L_CRWZ_cuts_bin_0	1.00 ± 0.04	1.00 ± 0.04
alpha_JER_EffectiveNP_1	0.00 ± 1.00	-0.00 ± 0.99
alpha_JER_EffectiveNP_2	0.00 ± 1.00	-0.00 ± 0.99
alpha_JER_EffectiveNP_3	0.00 ± 1.00	-0.00 ± 0.99

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.