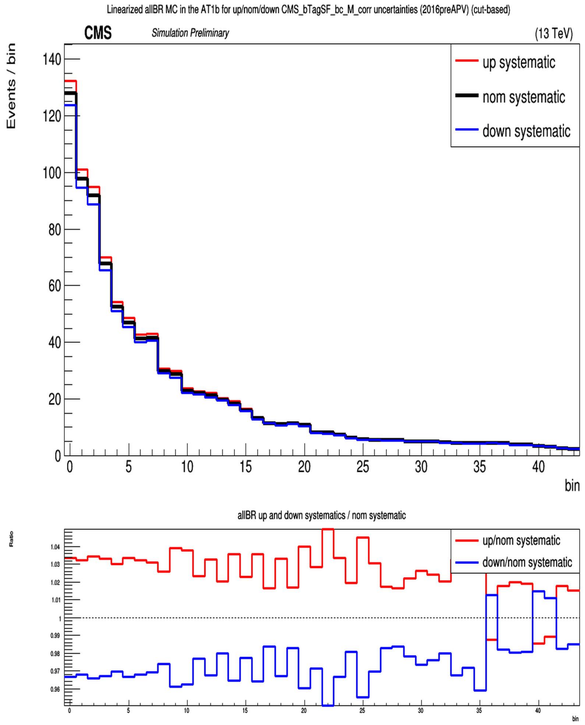
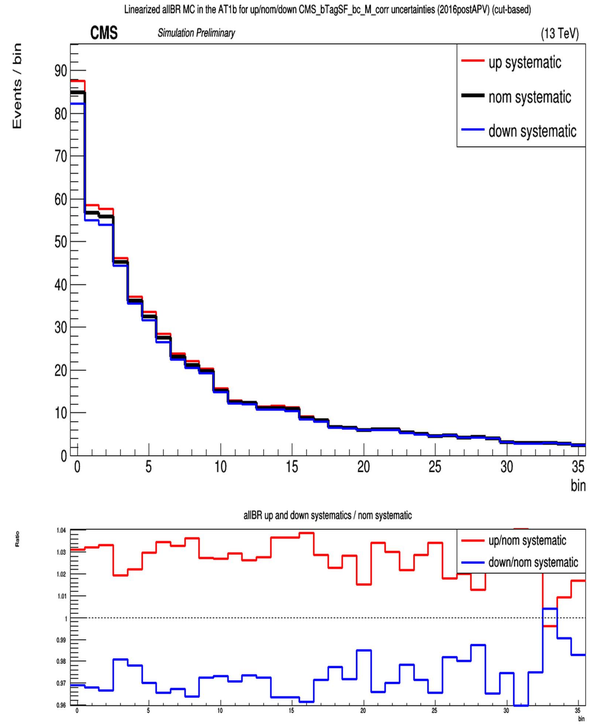
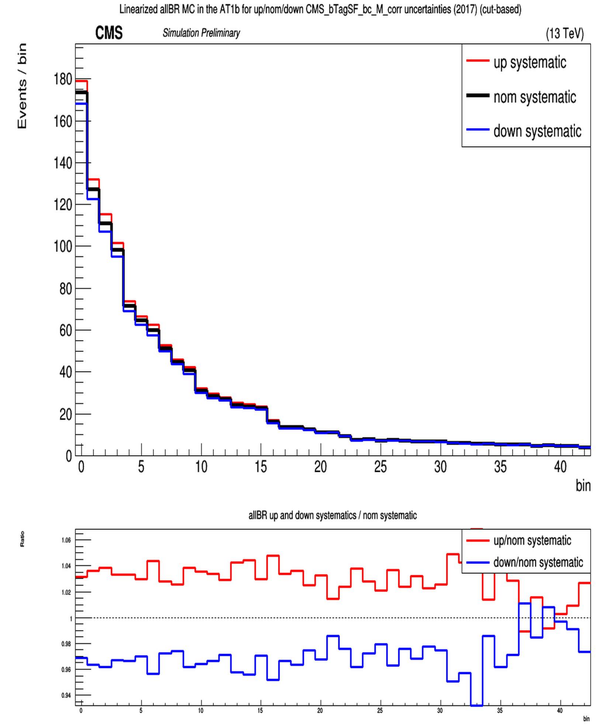
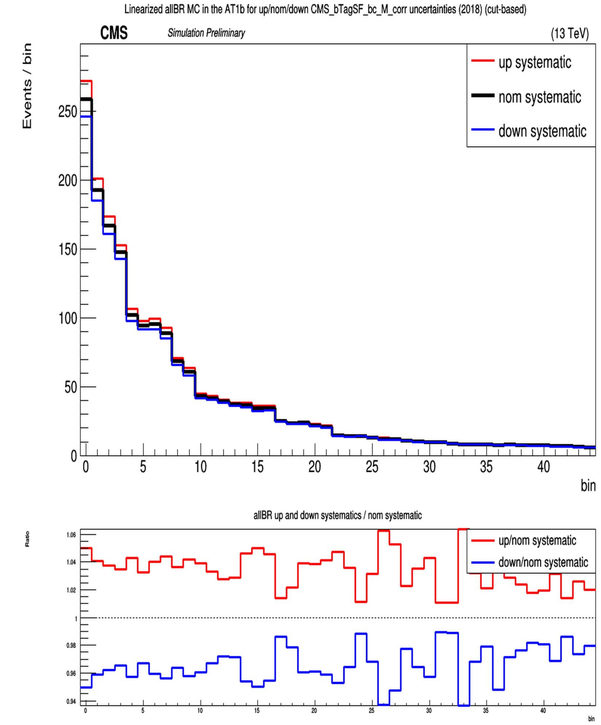
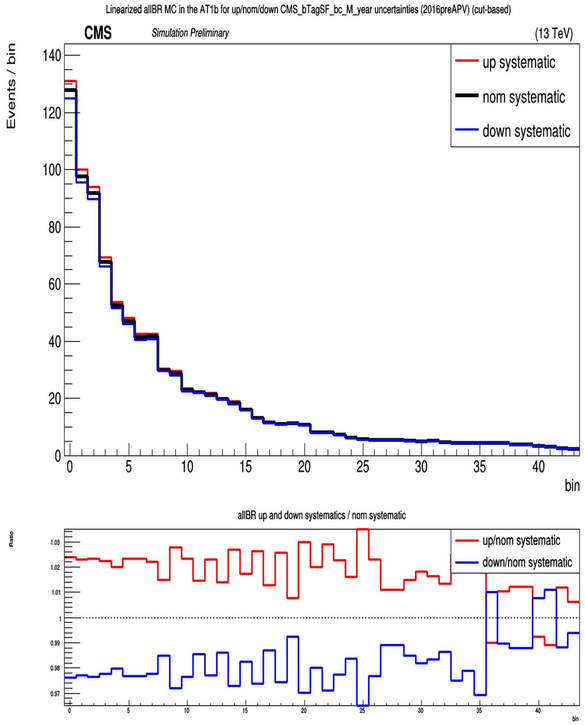
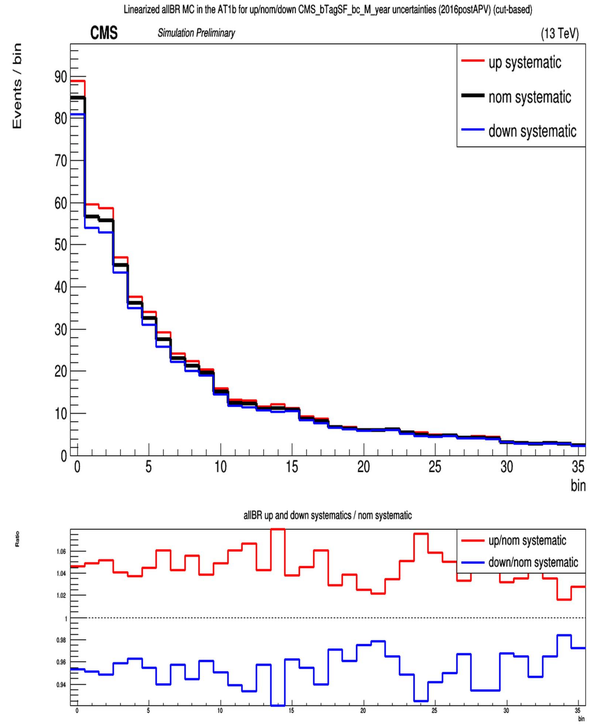

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_corr uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

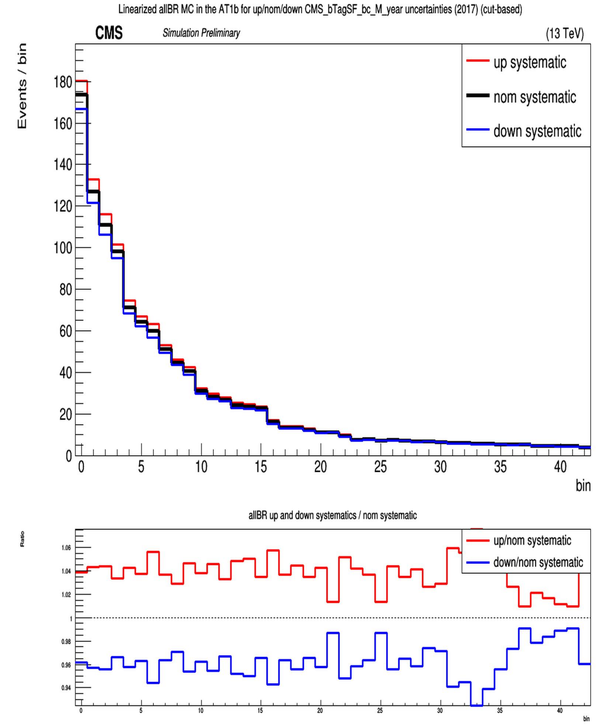

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_corr uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

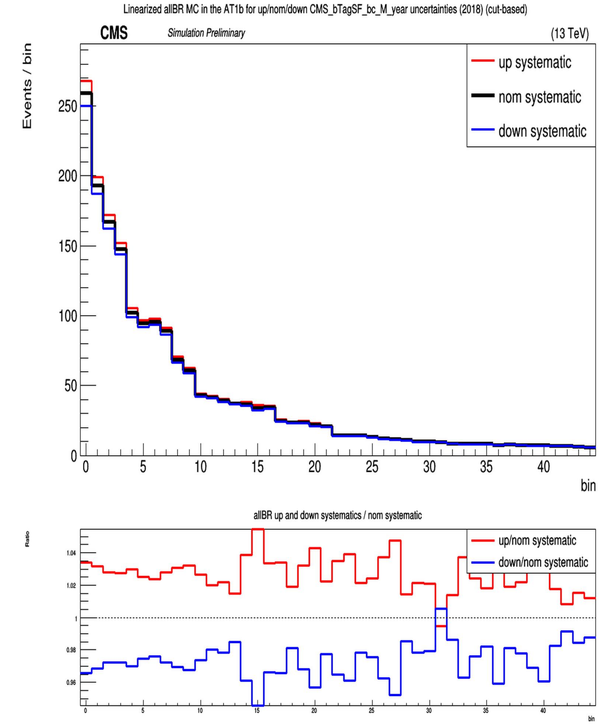

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_corr uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

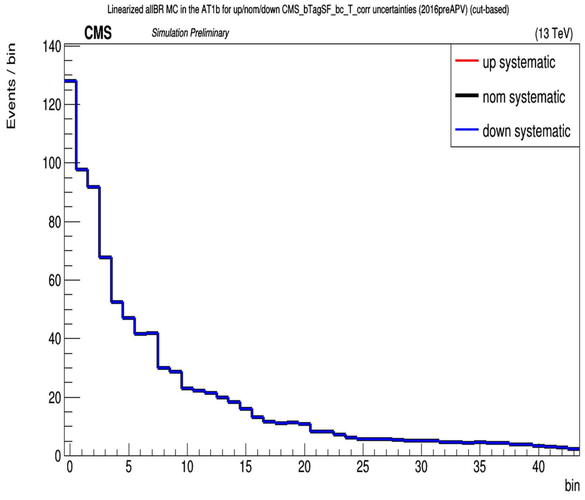

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_corr uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

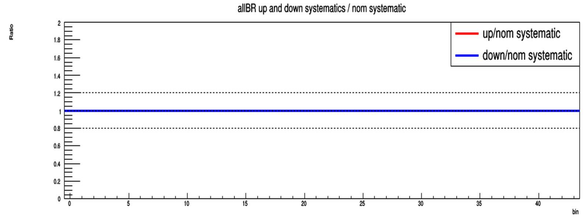

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

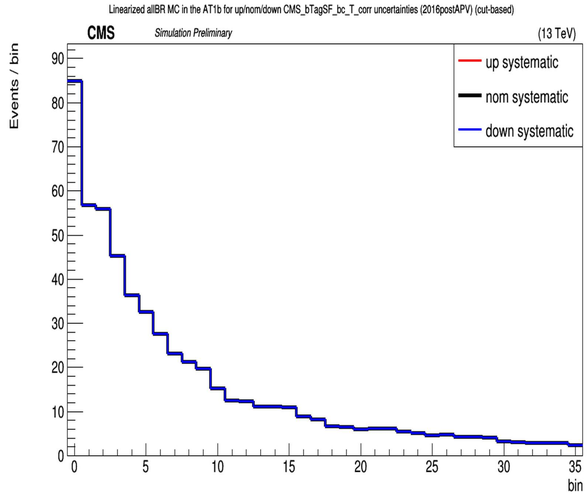

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

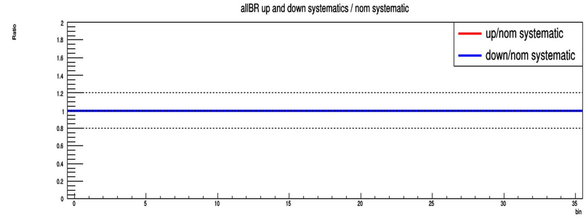

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

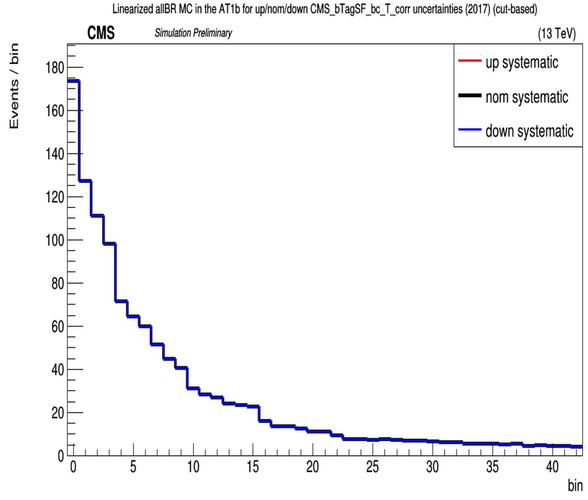

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

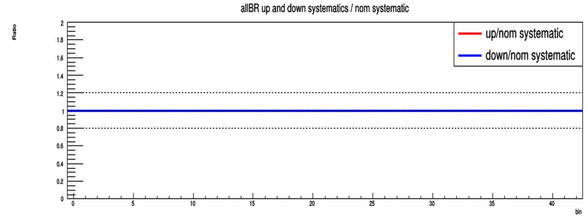

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_corr uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

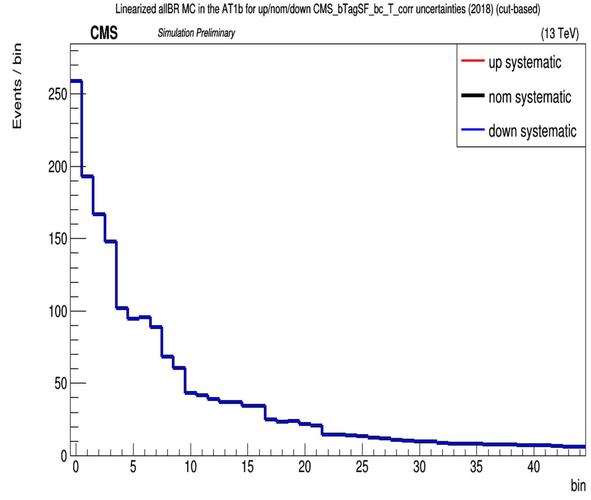

allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

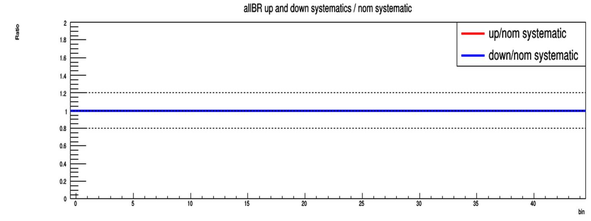

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_corr uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

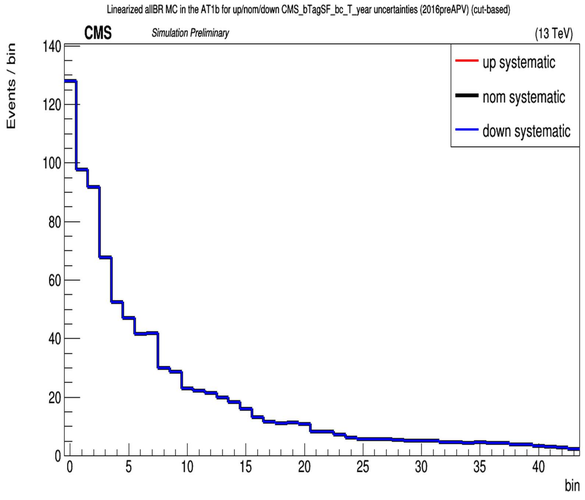

allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

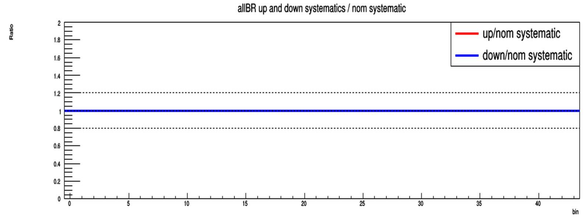

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_corr uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

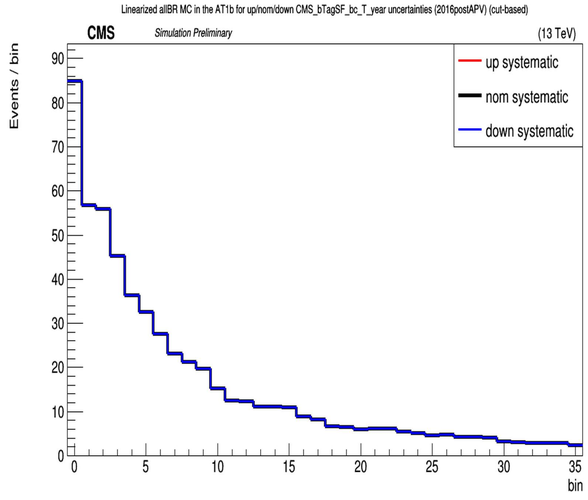

allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

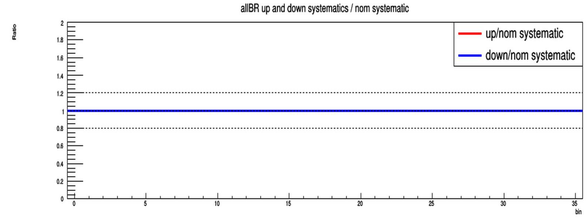

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_corr uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

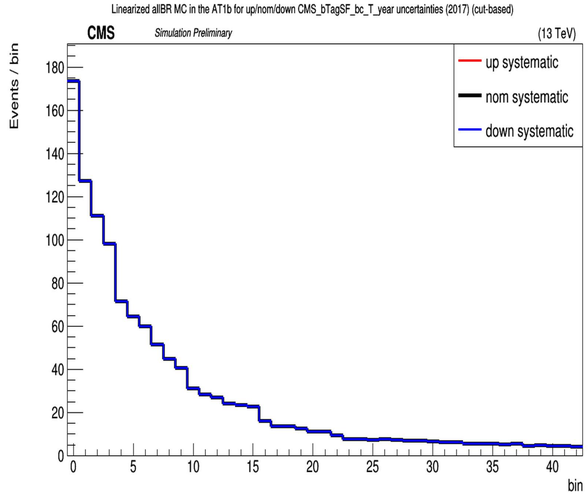

allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

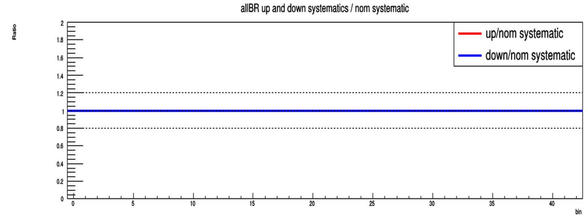

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

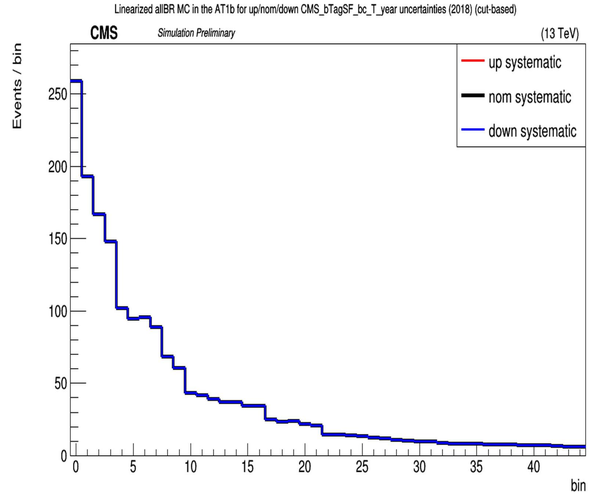

allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

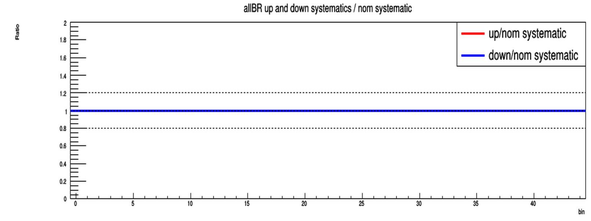

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

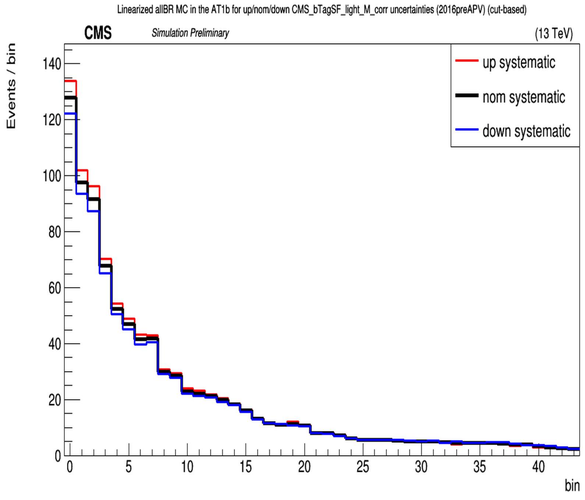

allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

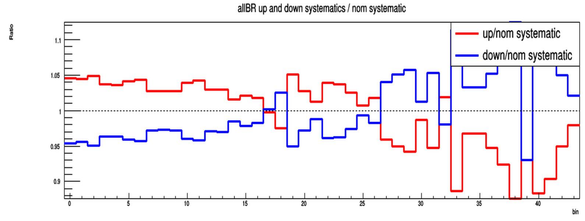

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

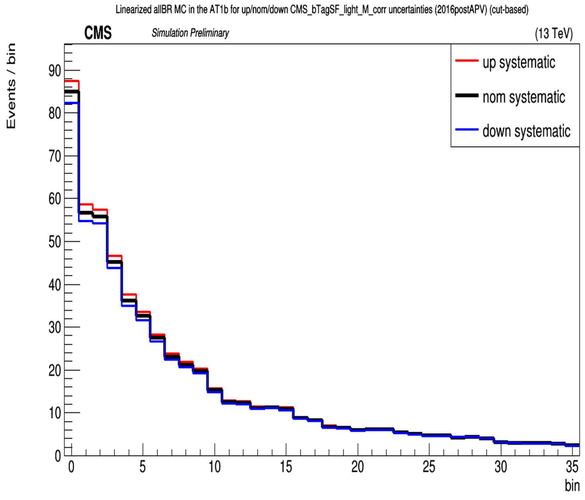

allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

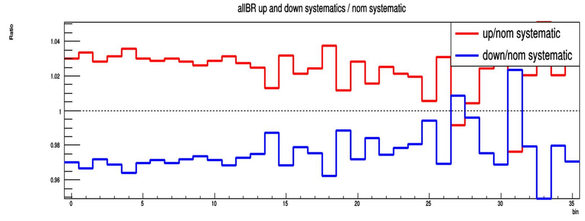

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

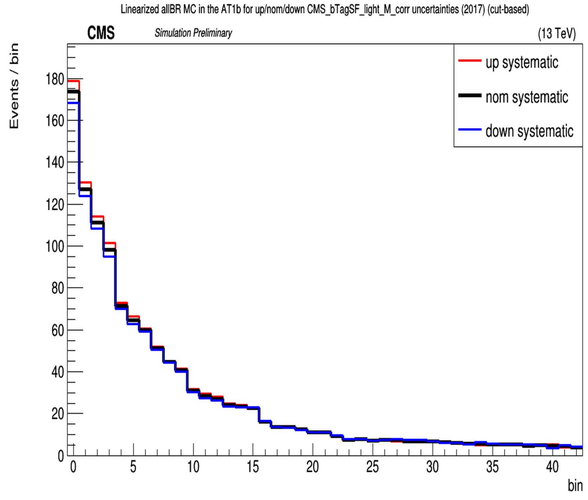

allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

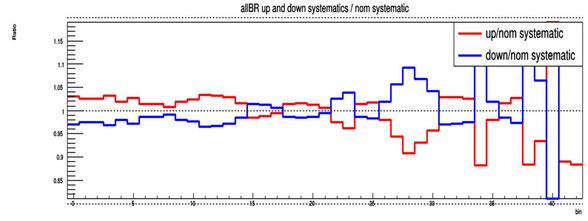

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_light_M_corr uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

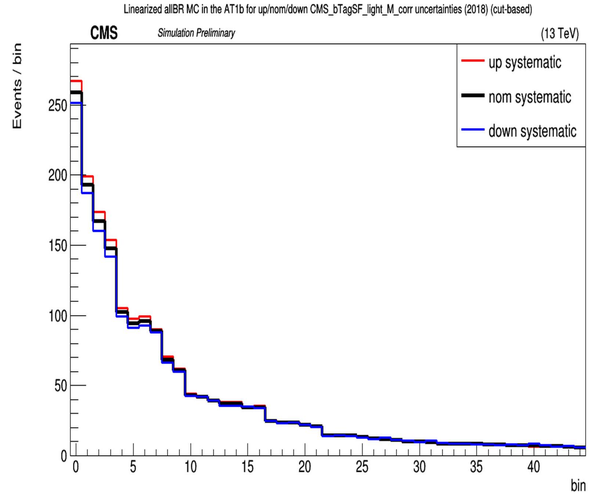

allBR up and down systematics / nom systematic
Ratio
bin
up/nom systematic
down/nom systematic

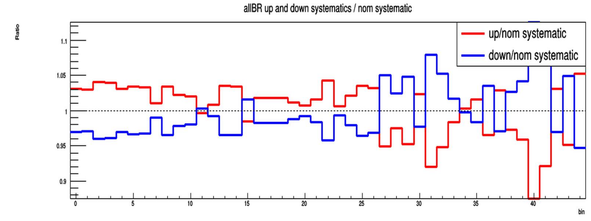

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_light_M_corr uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

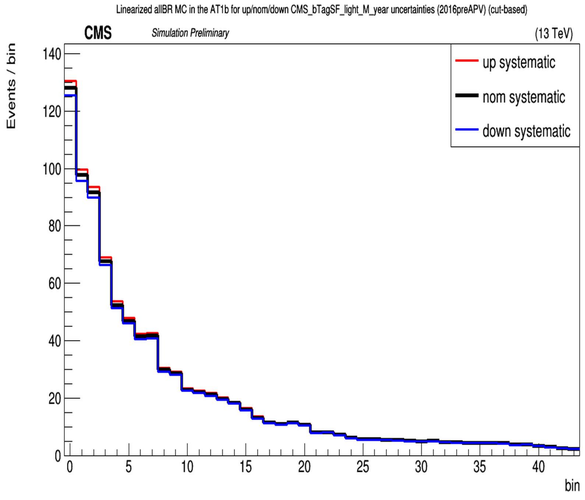

allBR up and down systematics / nom systematic
Ratio
bin
up/nom systematic
down/nom systematic

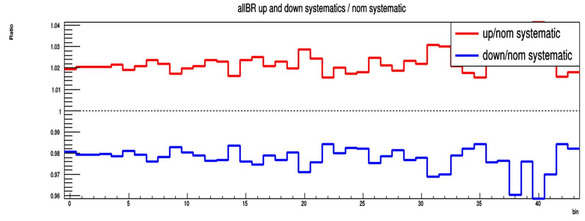

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_light_M_corr uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

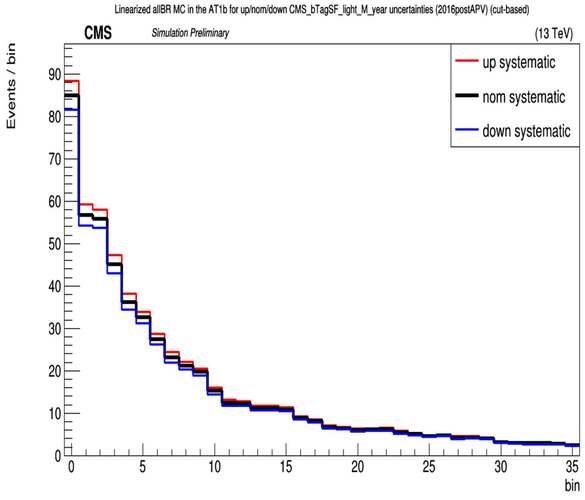

allBR up and down systematics / nom systematic
Ratio
bin
up/nom systematic
down/nom systematic

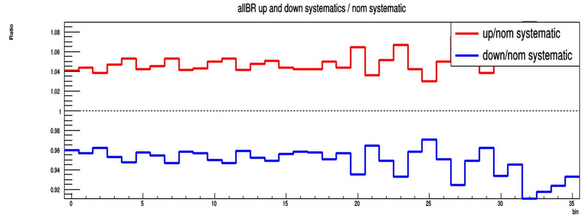

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_light_M_corr uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

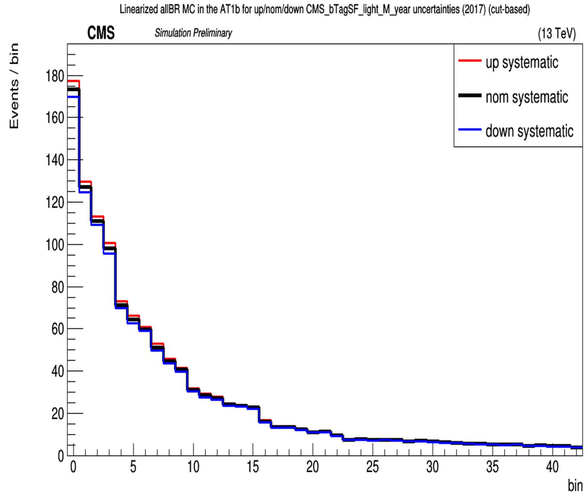

allBR up and down systematics / nom systematic
Ratio
bin
up/nom systematic
down/nom systematic

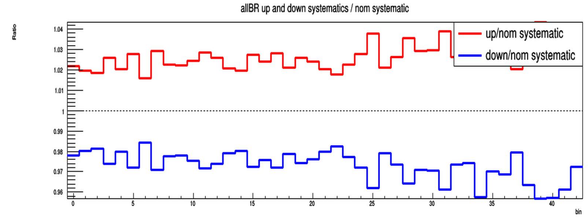

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_light_M_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

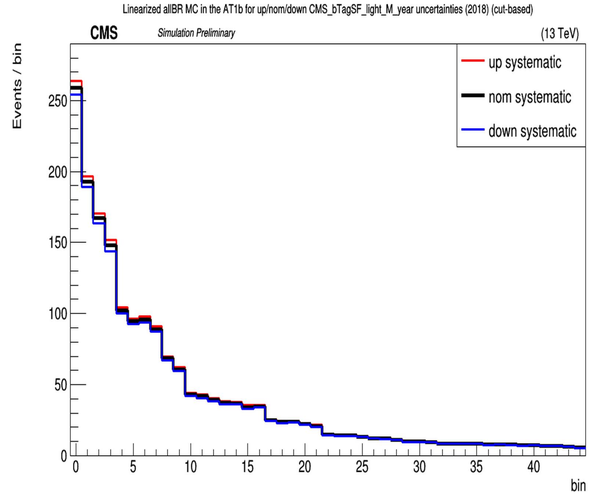

allBR up and down systematics / nom systematic
Ratio
bin
up/nom systematic
down/nom systematic

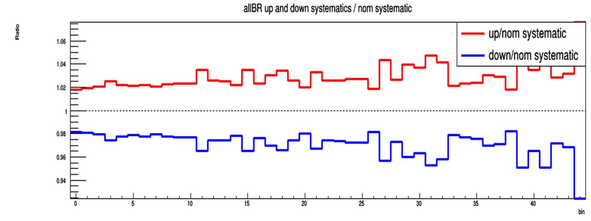

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_light_M_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

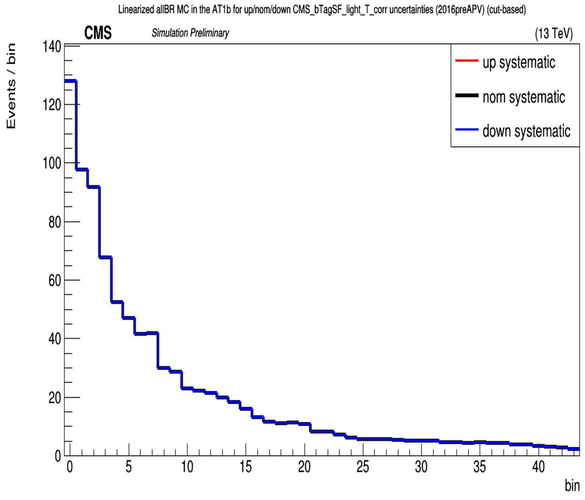

allBR up and down systematics / nom systematic
Ratio
bin
up/nom systematic
down/nom systematic

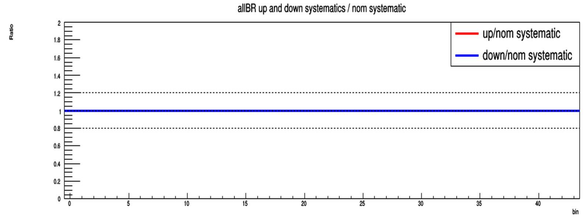

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_light_M_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

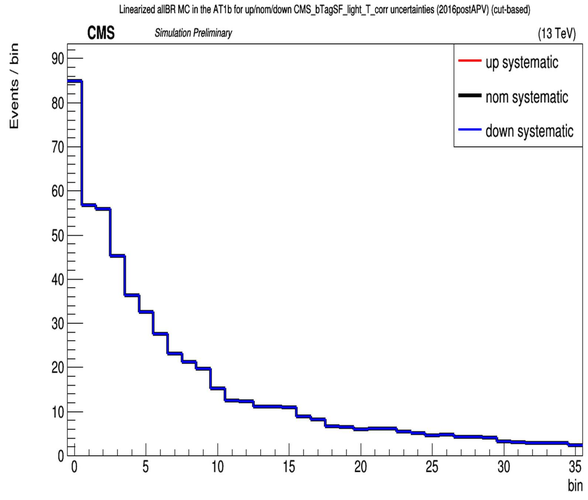

allBR up and down systematics / nom systematic
Ratio
bin
up/nom systematic
down/nom systematic

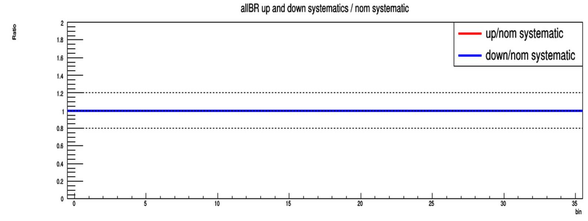

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_light_M_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

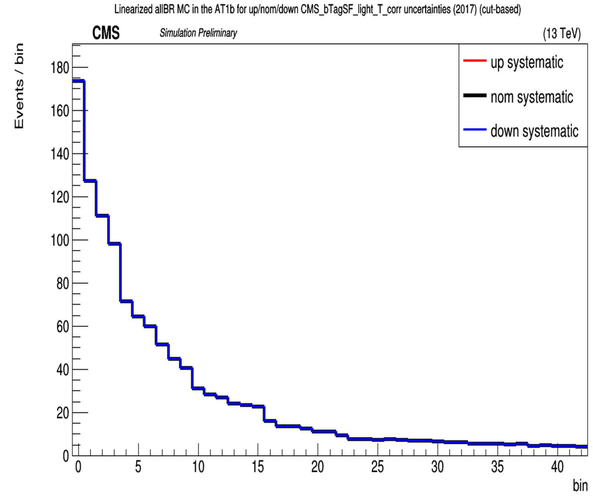

allBR up and down systematics / nom systematic
Ratio
bin
up/nom systematic
down/nom systematic

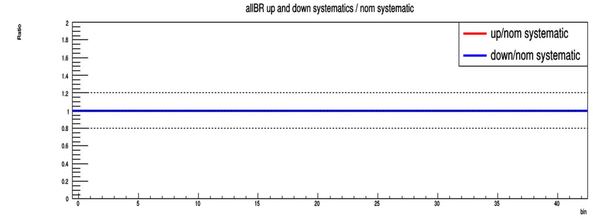

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_light_T_corr uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

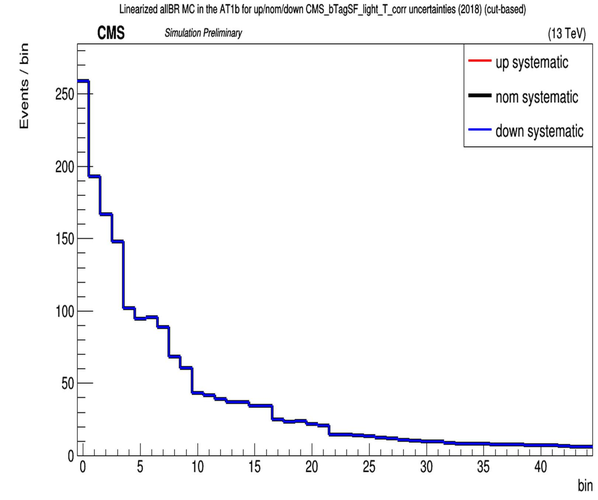

allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

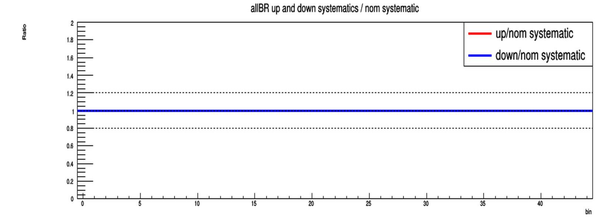

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_light_T_corr uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

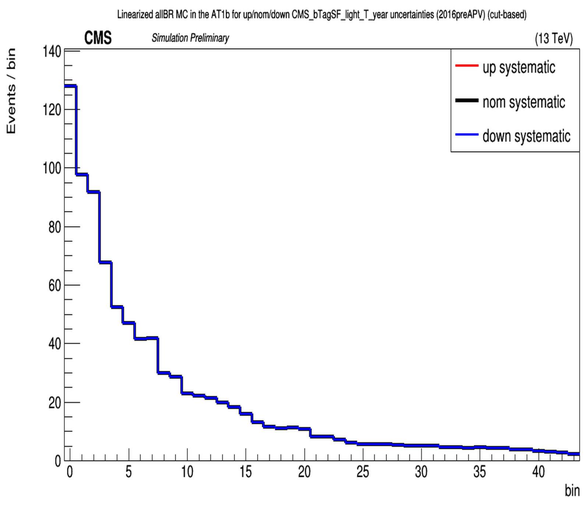

allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

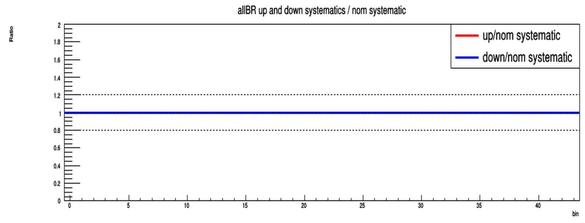

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_light_T_corr uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

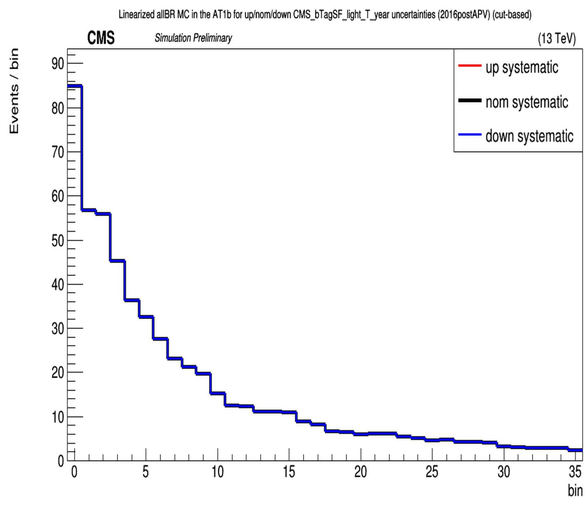

allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

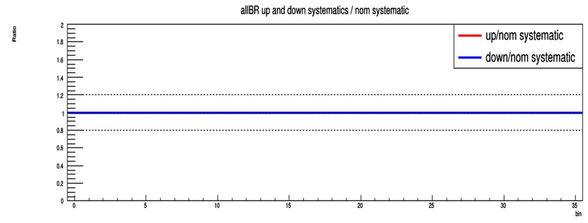

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_light_T_corr uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

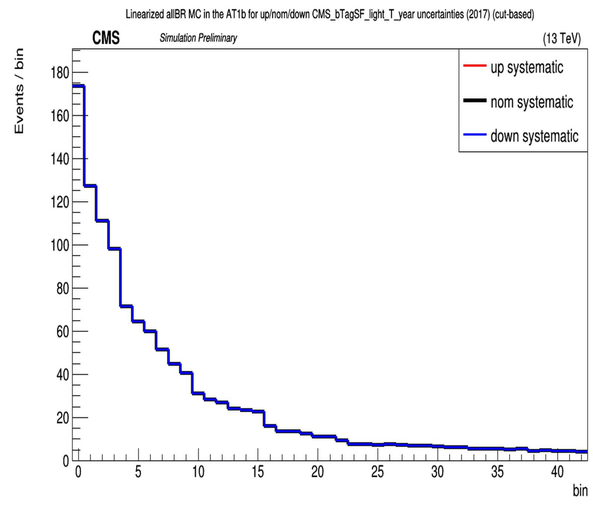

allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

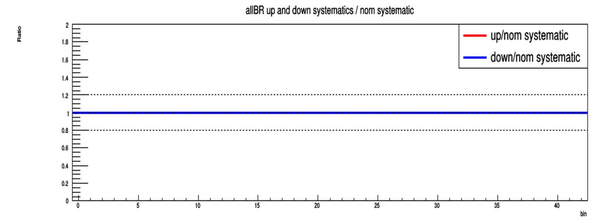

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_light_T_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

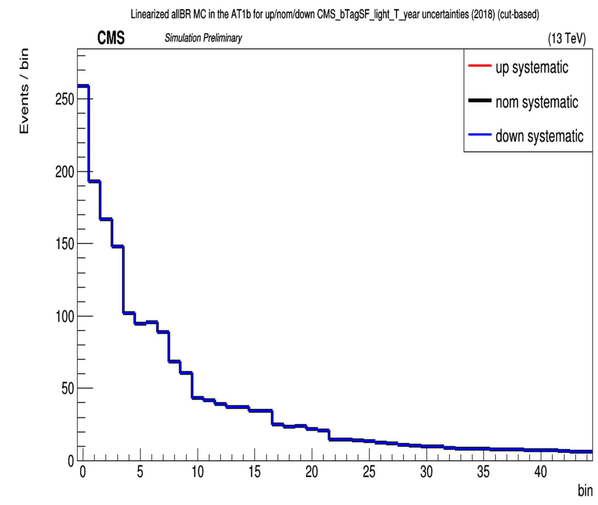

allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

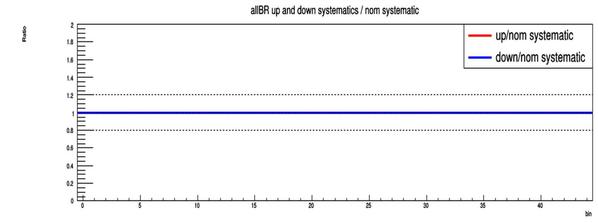

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_light_T_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

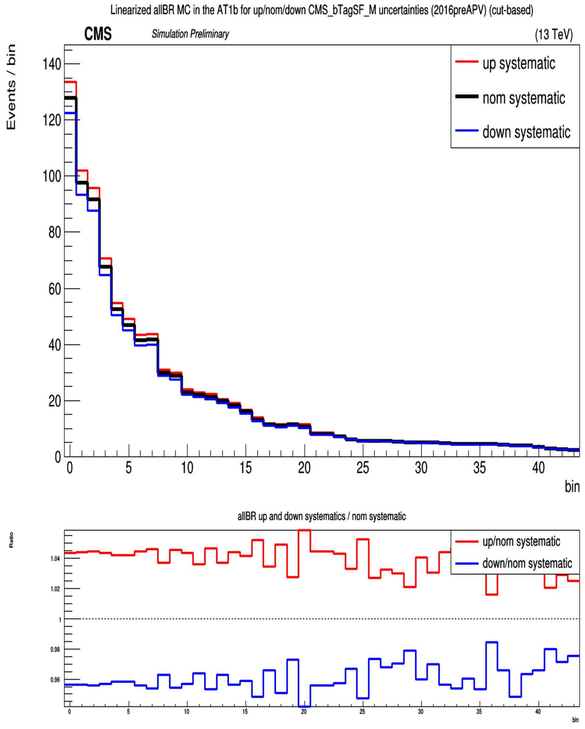

allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

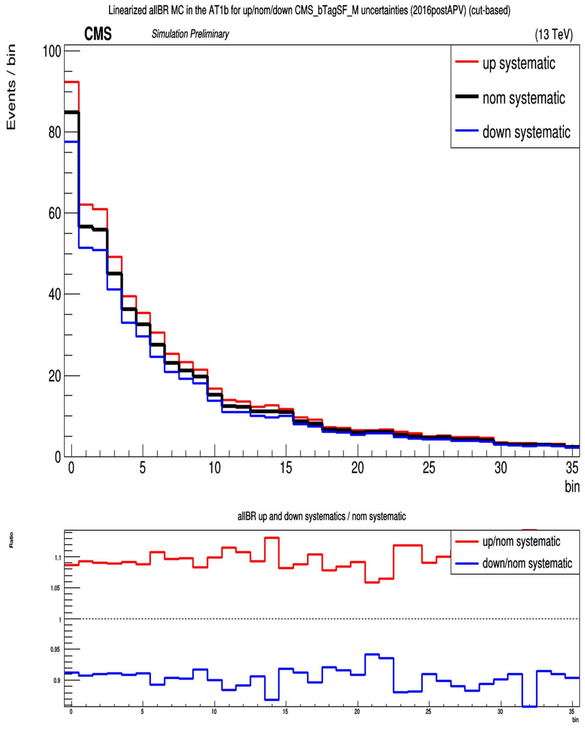

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_light_T_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

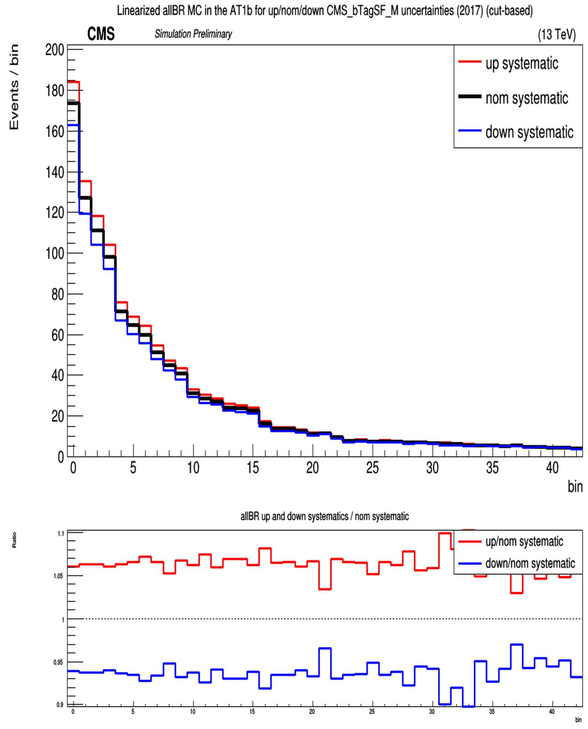

allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

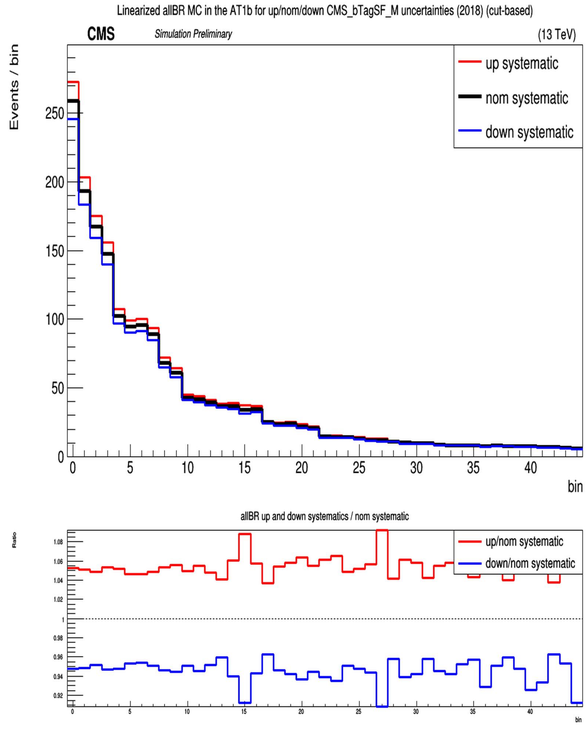

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_light_T_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

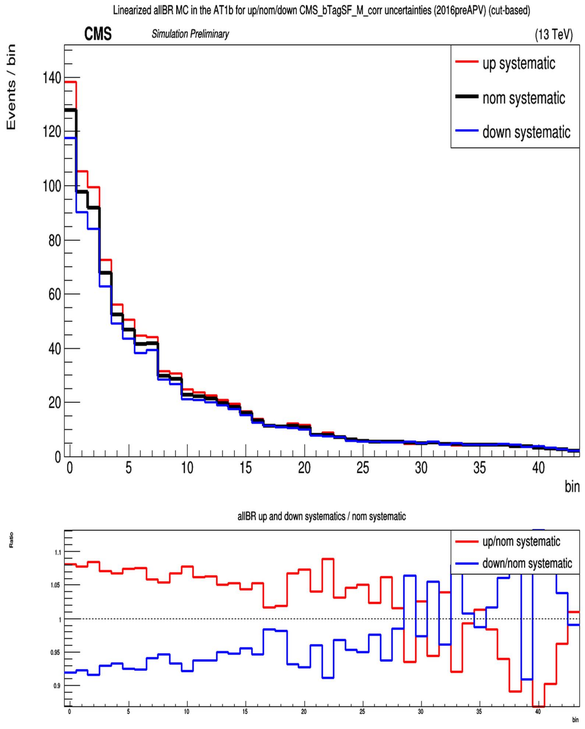

allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

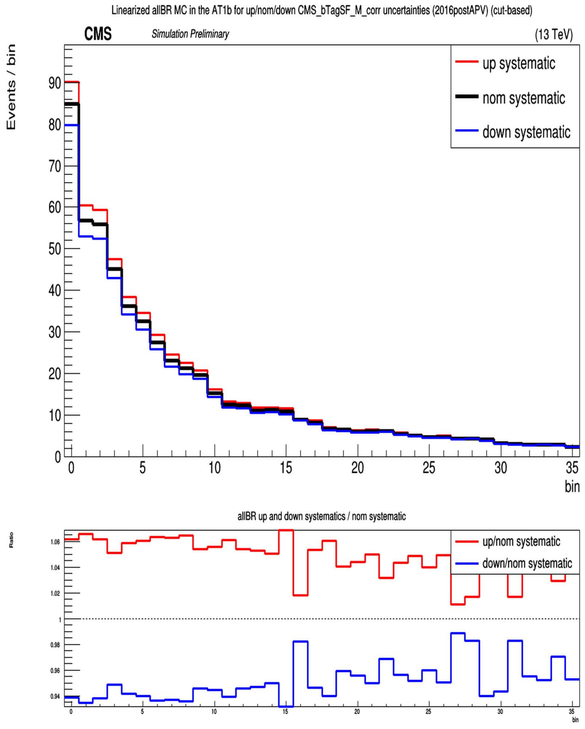

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_M uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

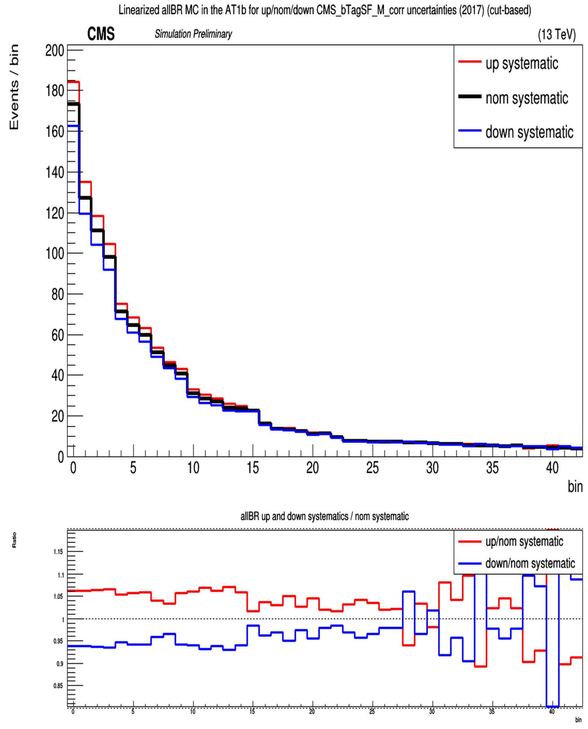

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_M uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

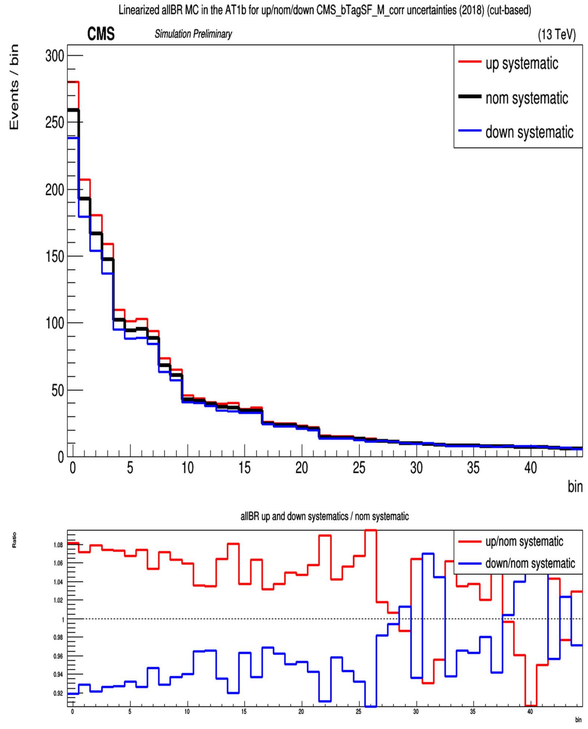

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_M uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_M uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

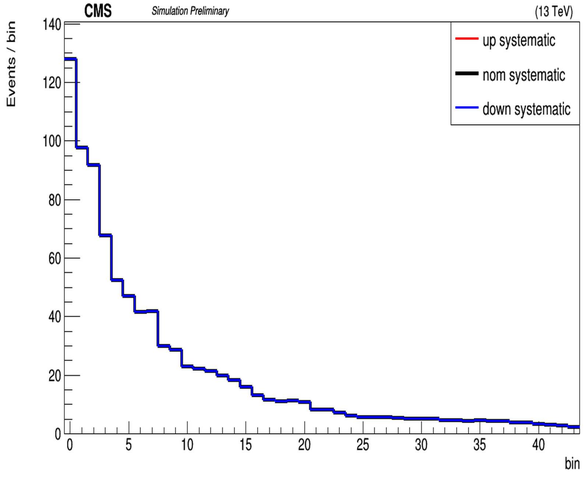

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_M_corr uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_M_corr uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

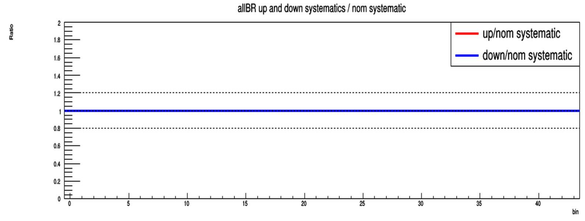

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_M_corr uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_M_corr uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

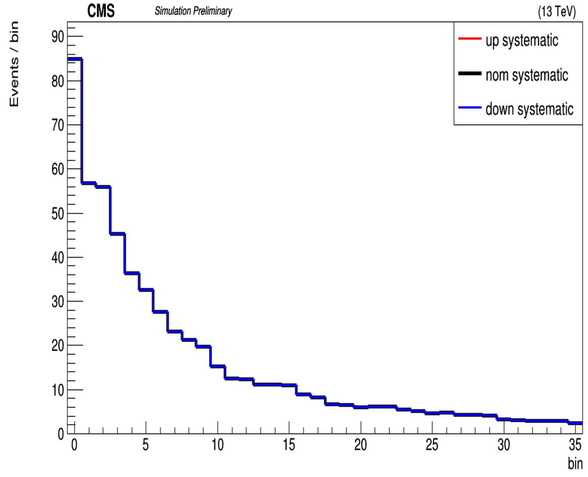
Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_T uncertainties (2016preAPV) (cut-based)



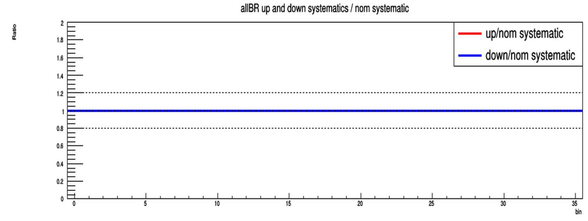

allBR up and down systematics / nom systematic



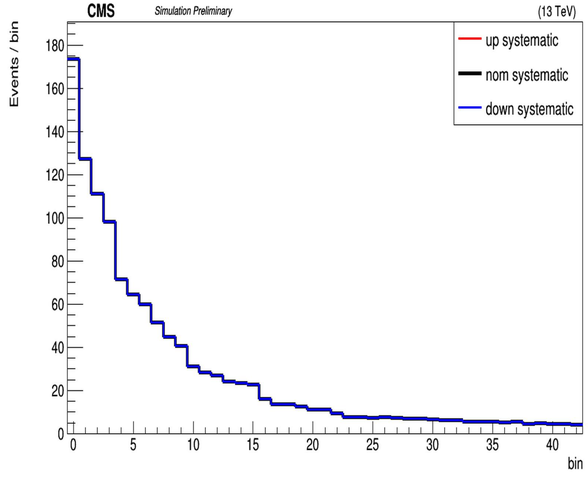

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_T uncertainties (2016postAPV) (cut-based)



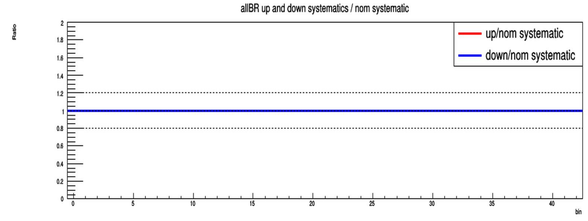

allBR up and down systematics / nom systematic



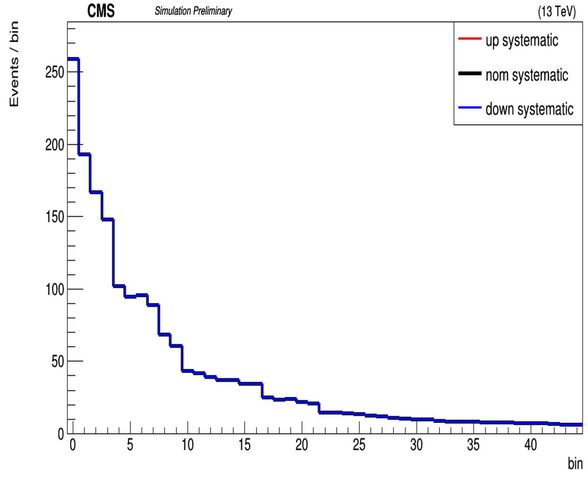

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_T uncertainties (2017) (cut-based)



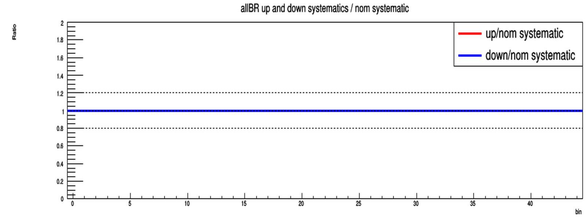

allBR up and down systematics / nom systematic



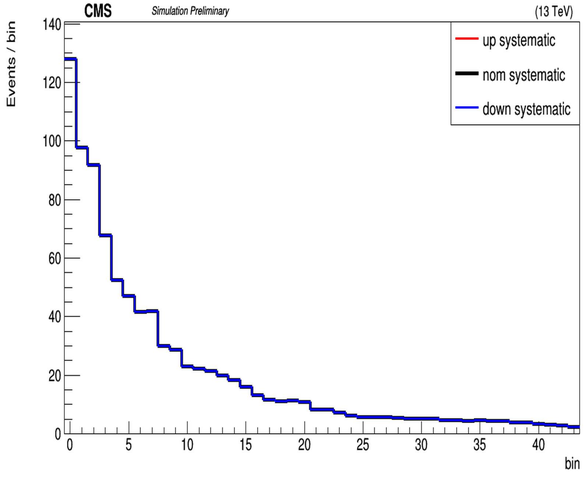

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_T uncertainties (2018) (cut-based)



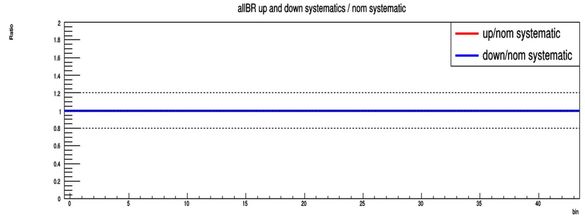

allBR up and down systematics / nom systematic



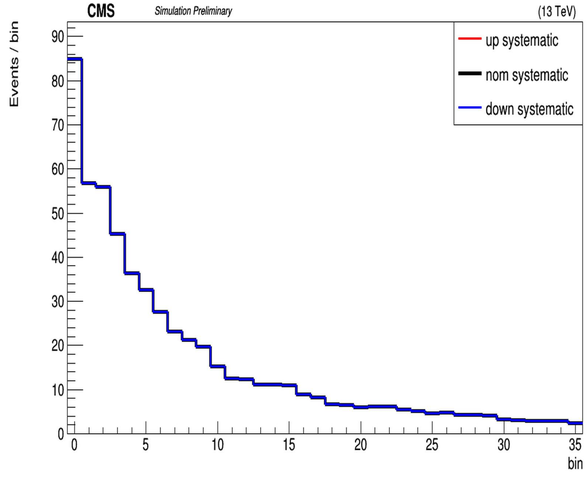

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_T_corr uncertainties (2016preAPV) (cut-based)



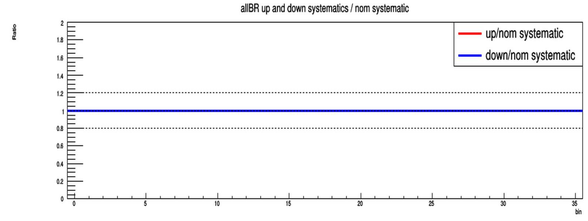

allBR up and down systematics / nom systematic



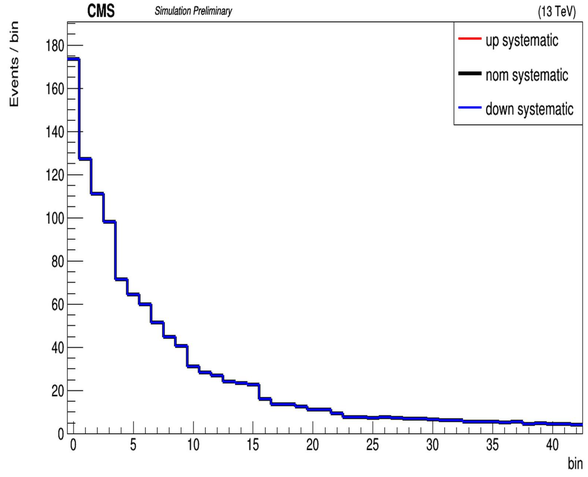

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_T_corr uncertainties (2016postAPV) (cut-based)



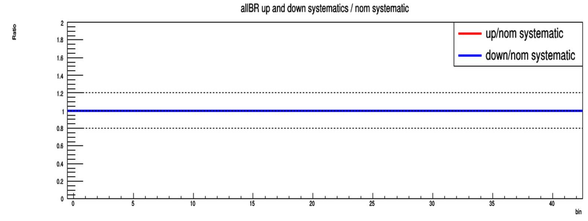

allBR up and down systematics / nom systematic



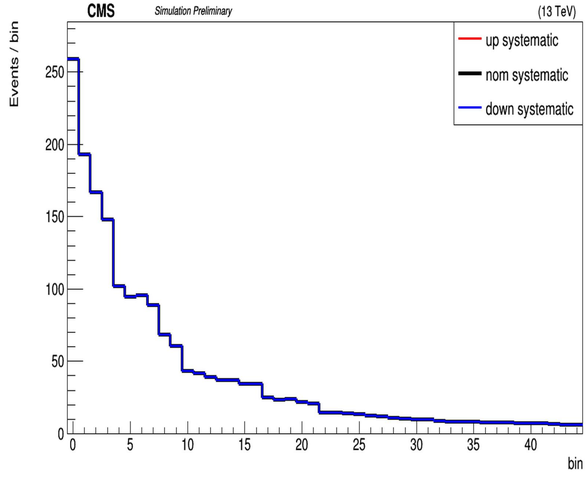

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_T_corr uncertainties (2017) (cut-based)



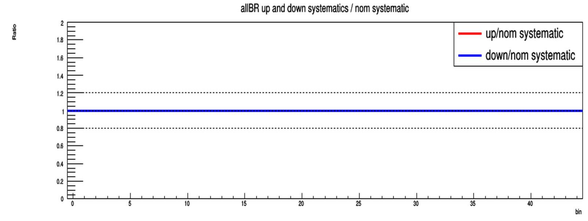

allBR up and down systematics / nom systematic

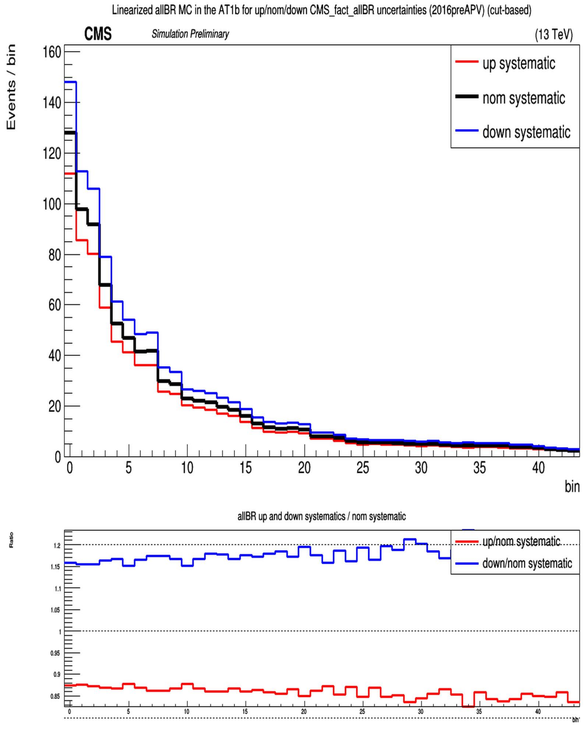


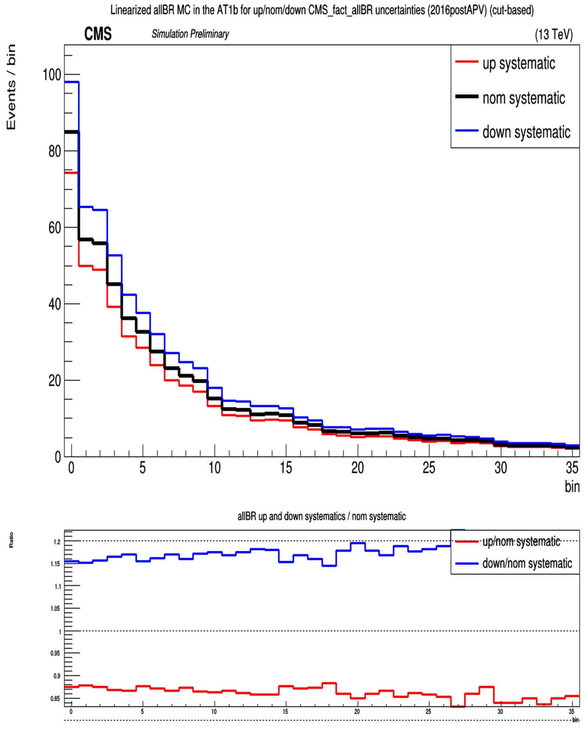

Linearized allBR MC in the AT1b for up/nom/down CMS_bTagSF_T_corr uncertainties (2018) (cut-based)

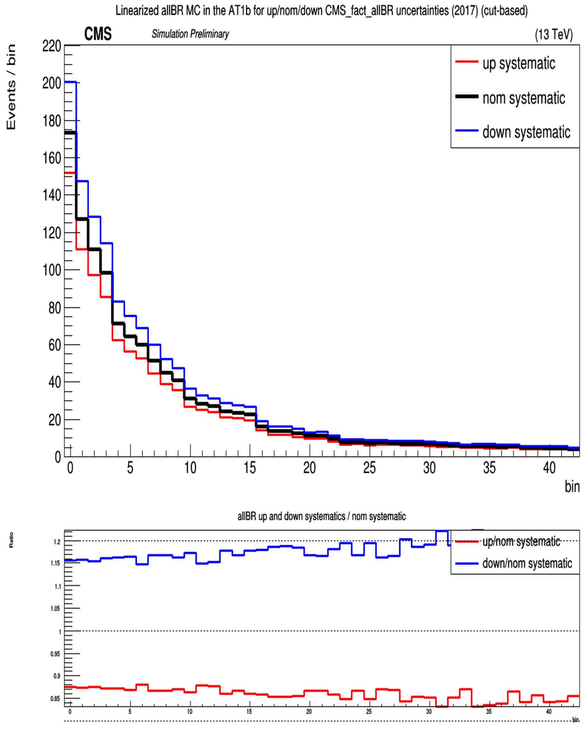


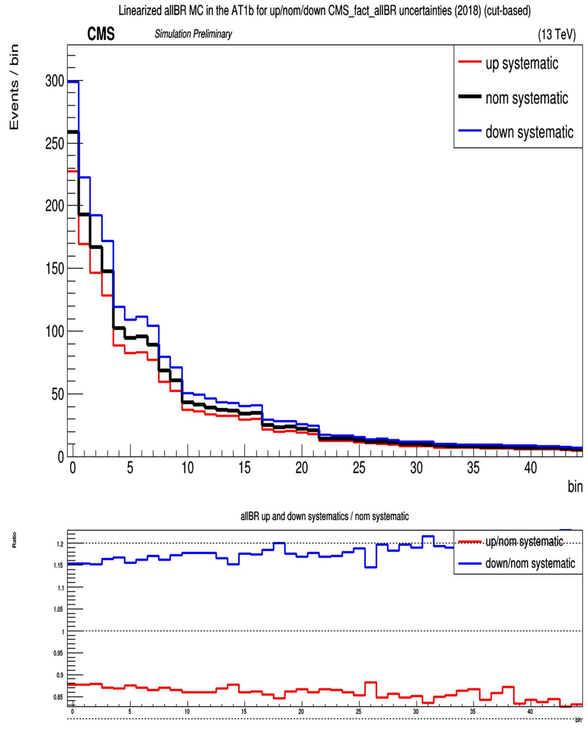

allBR up and down systematics / nom systematic

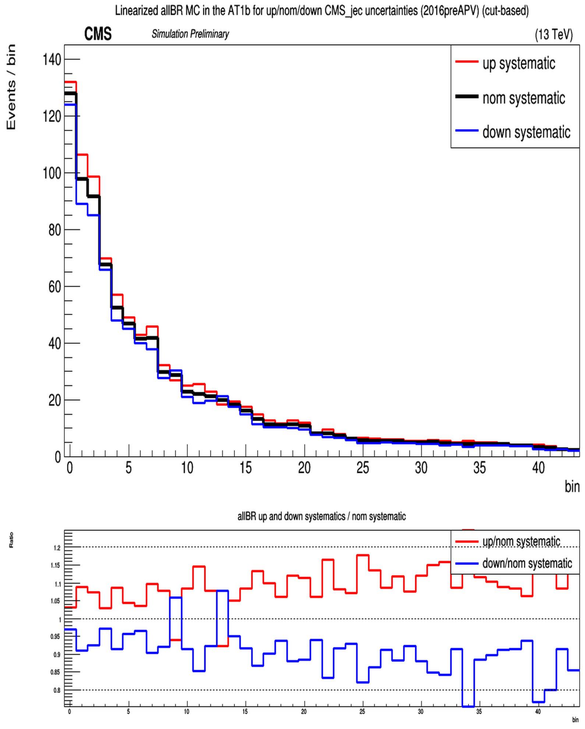


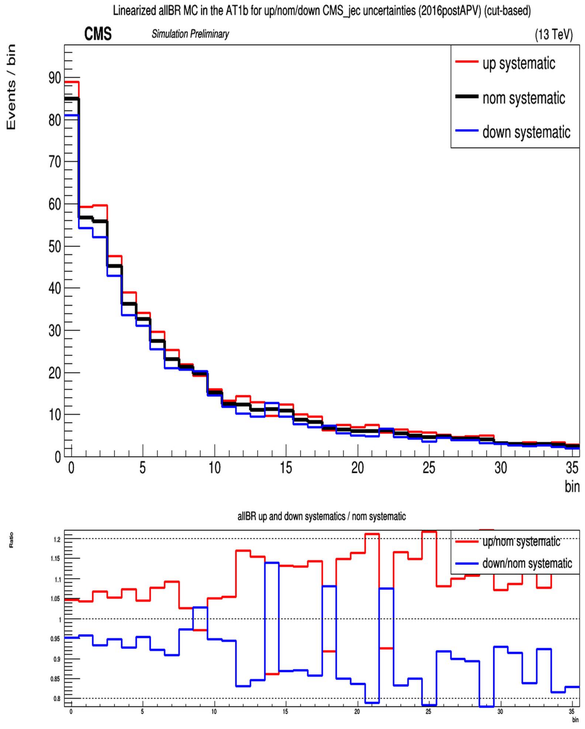

Linearized allBR MC in the AT1b for up/nom/down CMS_fact_allBR uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

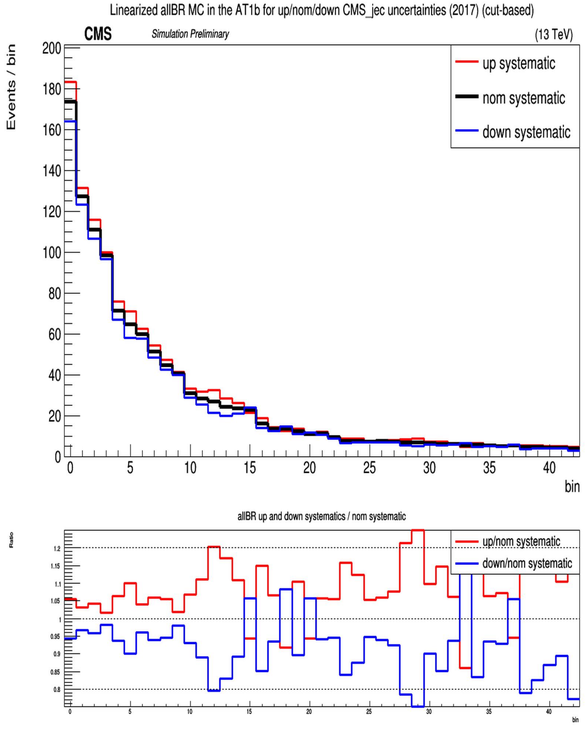

Linearized allBR MC in the AT1b for up/nom/down CMS_fact_allBR uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

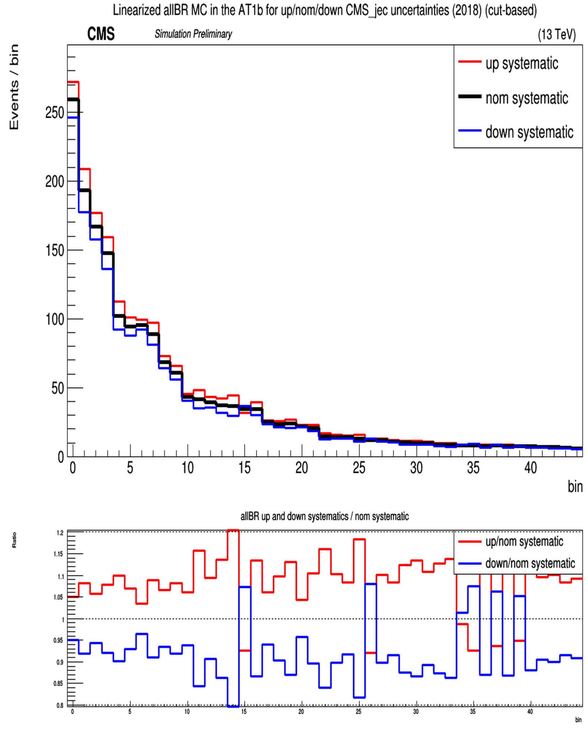

Linearized allBR MC in the AT1b for up/nom/down CMS_fact_allBR uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

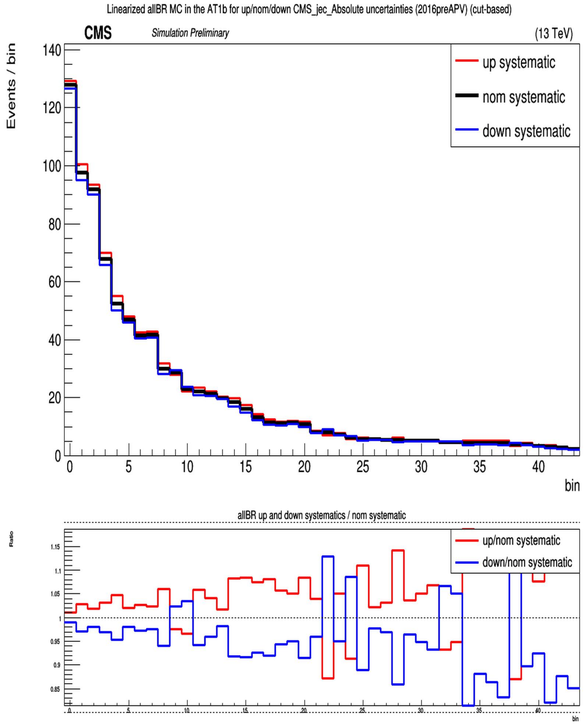

Linearized allBR MC in the AT1b for up/nom/down CMS_fact_allBR uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

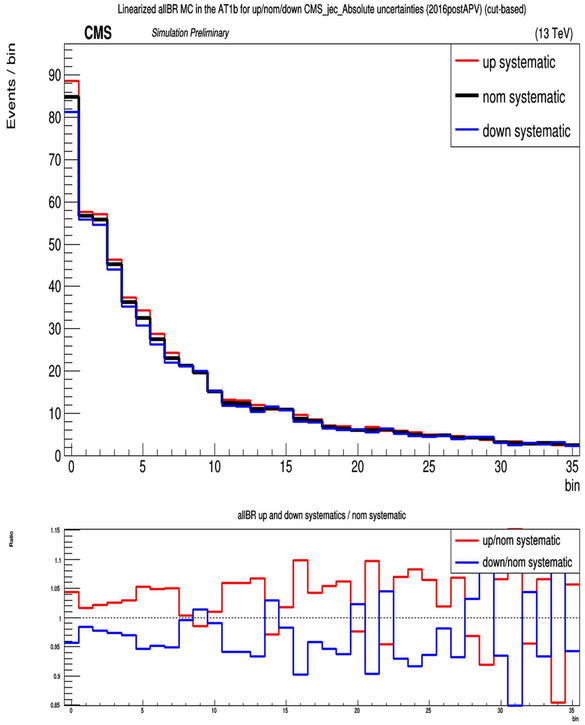

Linearized allBR MC in the AT1b for up/nom/down CMS_jec uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

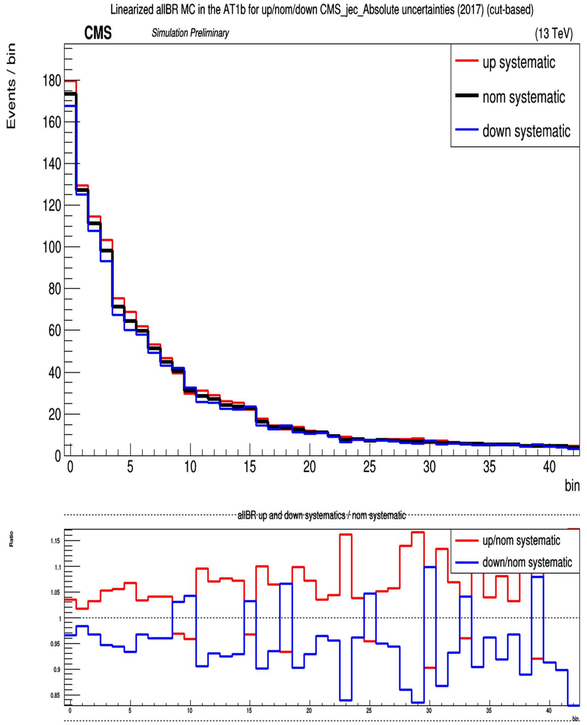

Linearized allBR MC in the AT1b for up/nom/down CMS_jec uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

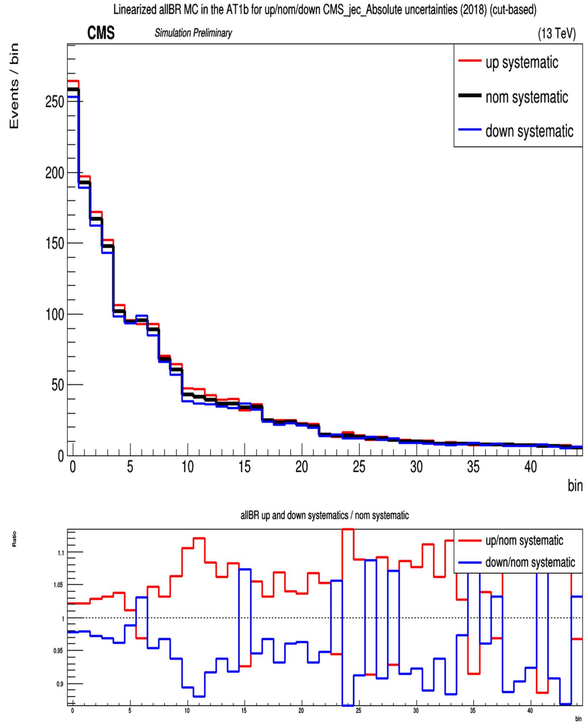

Linearized allBR MC in the AT1b for up/nom/down CMS_jec uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

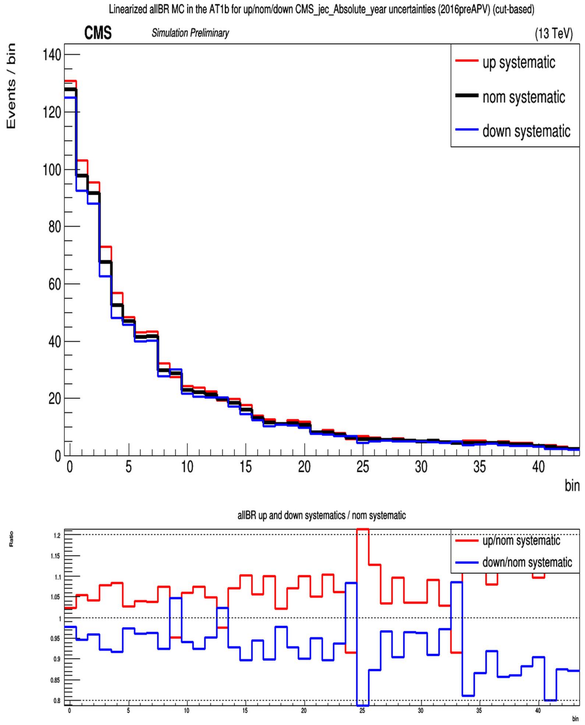

Linearized allBR MC in the AT1b for up/nom/down CMS_jec uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

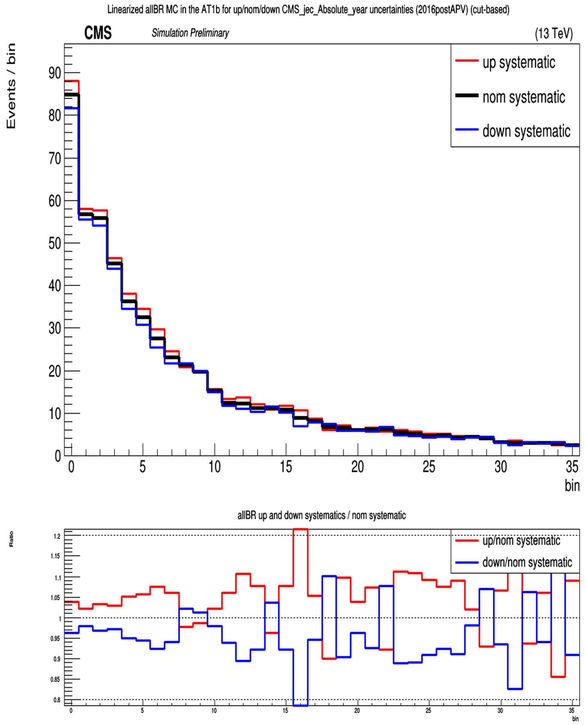

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_Absolute uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

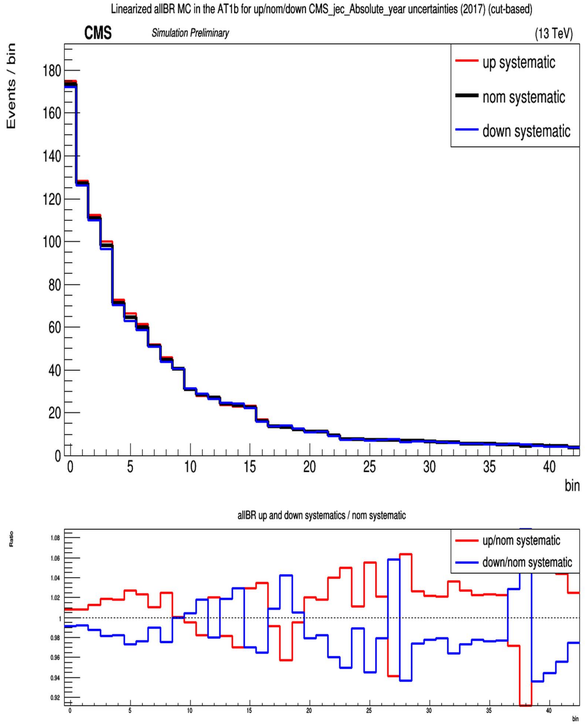

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_Absolute uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

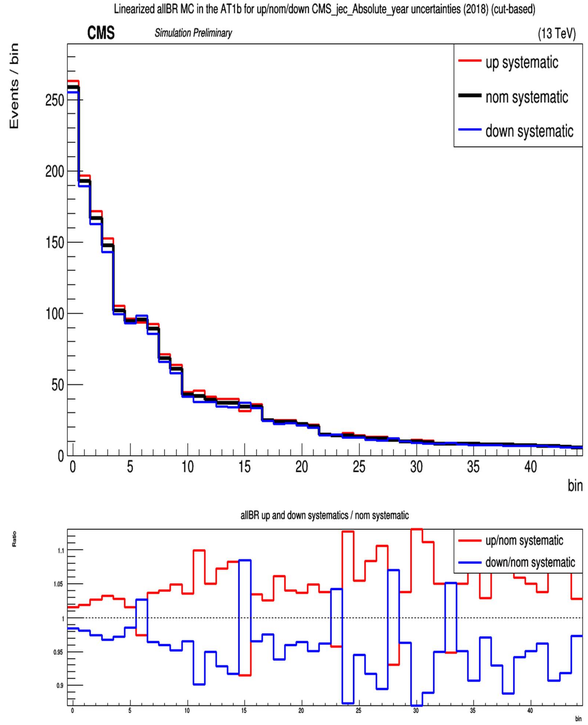

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_Absolute uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

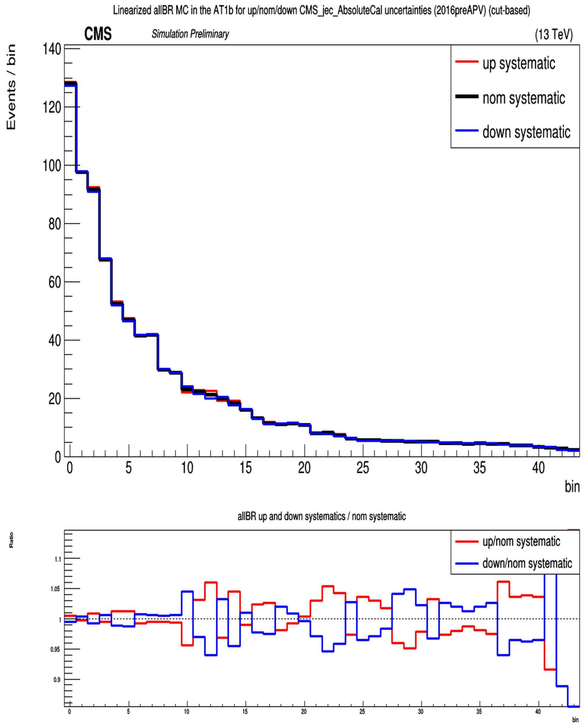

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_Absolute uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

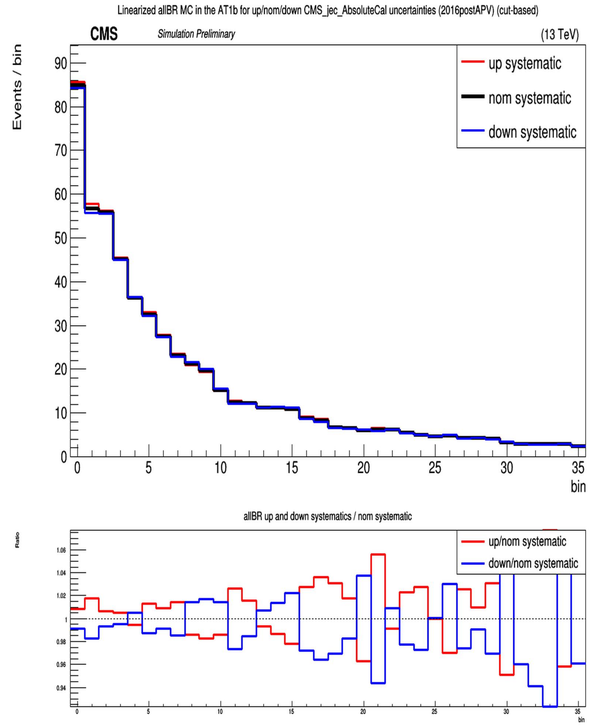

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_Absolute_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

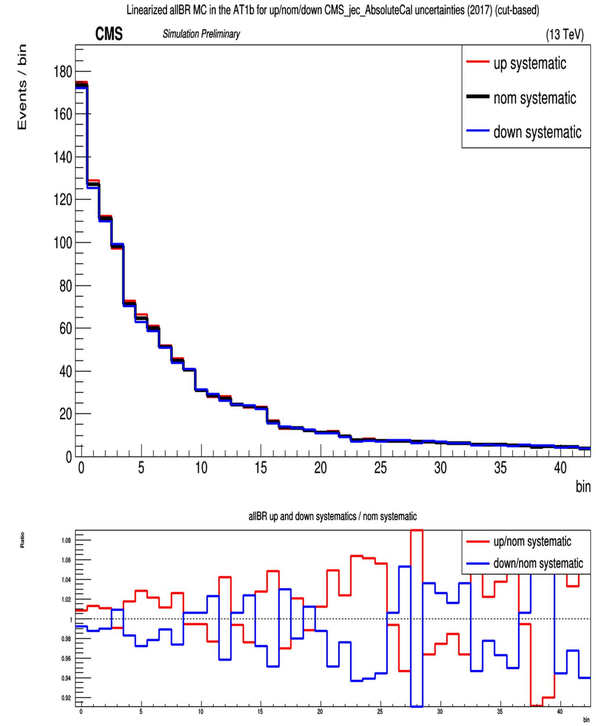

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_Absolute_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

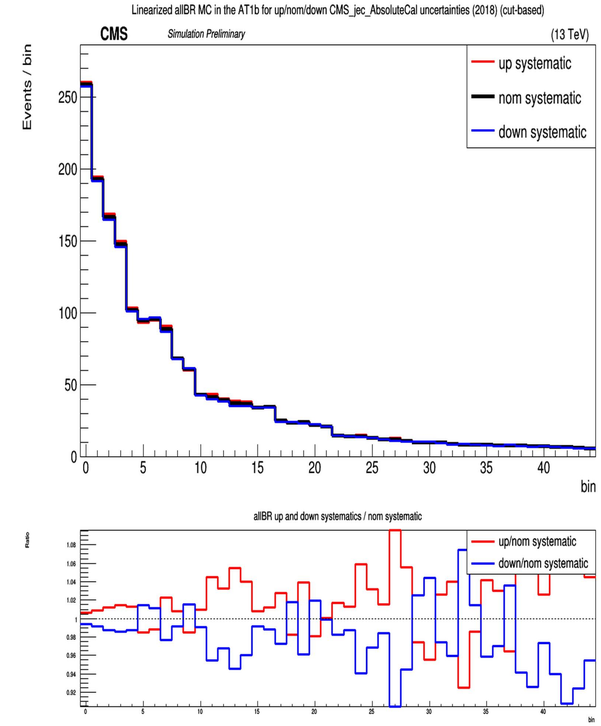

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_Absolute_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

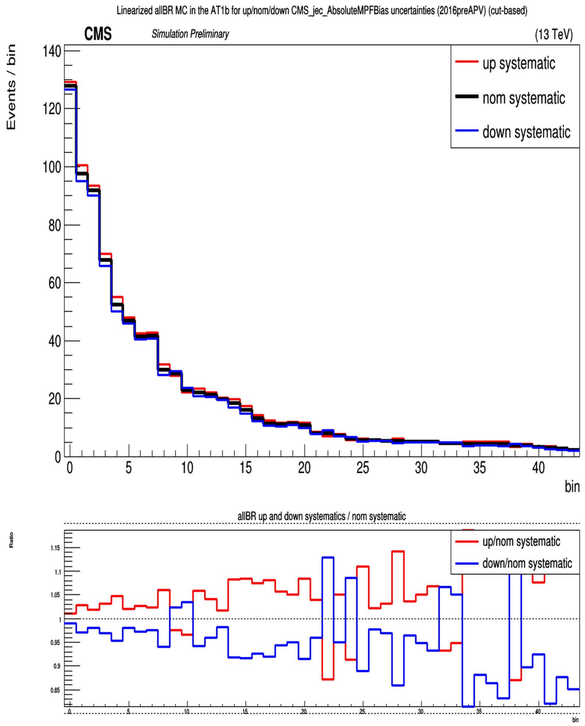

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_Absolute_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

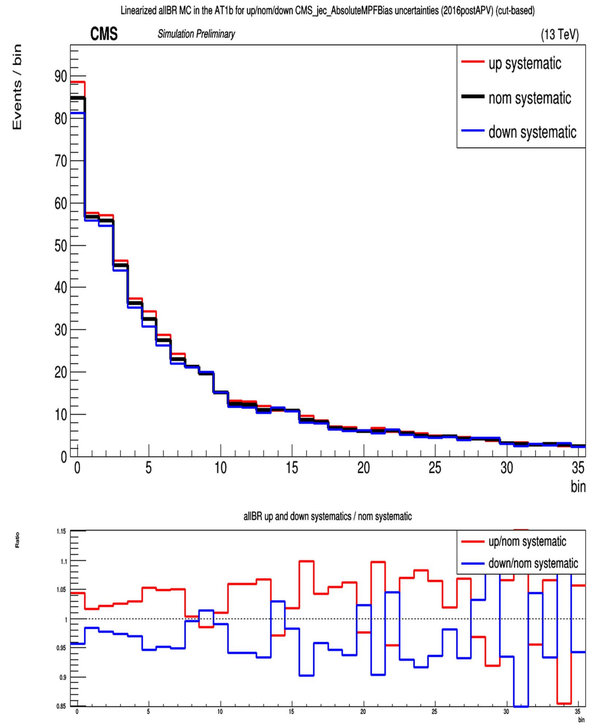

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsoluteCal uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

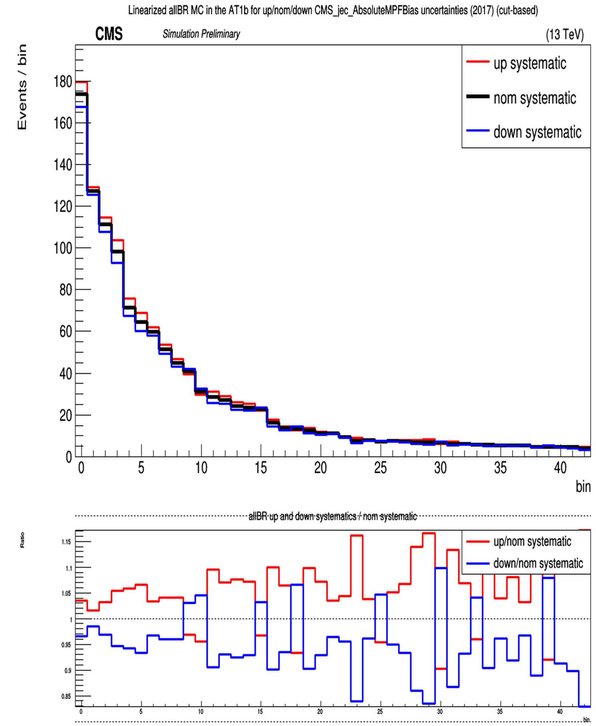

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsoluteCal uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

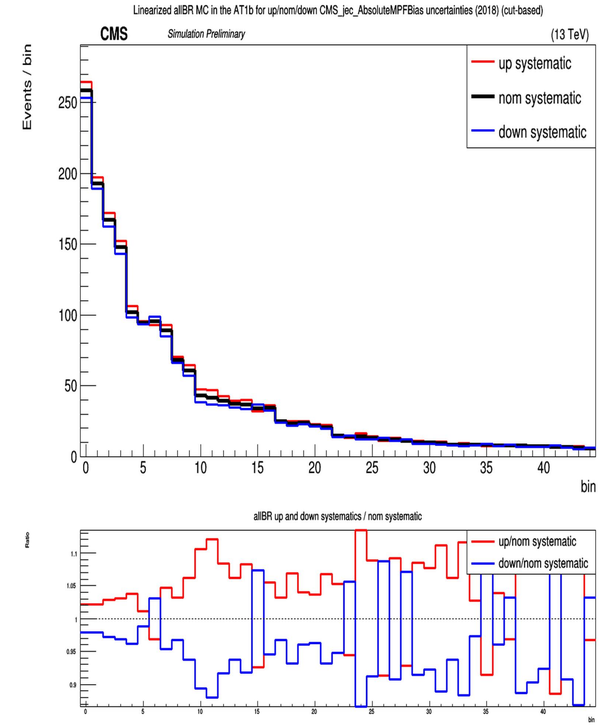

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsoluteCal uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

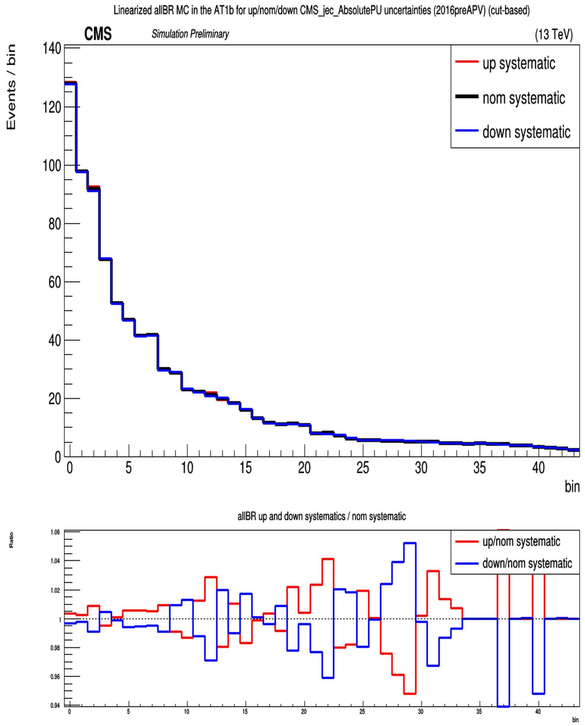

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsoluteCal uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

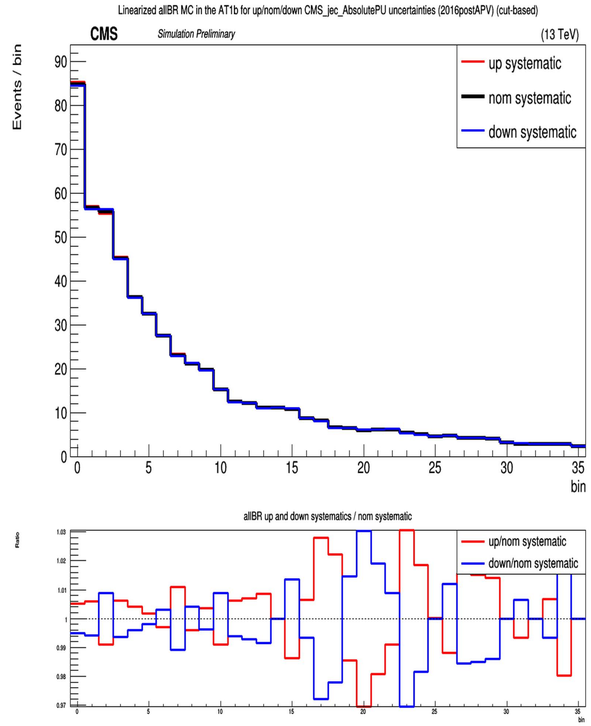

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsoluteMPFBias uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

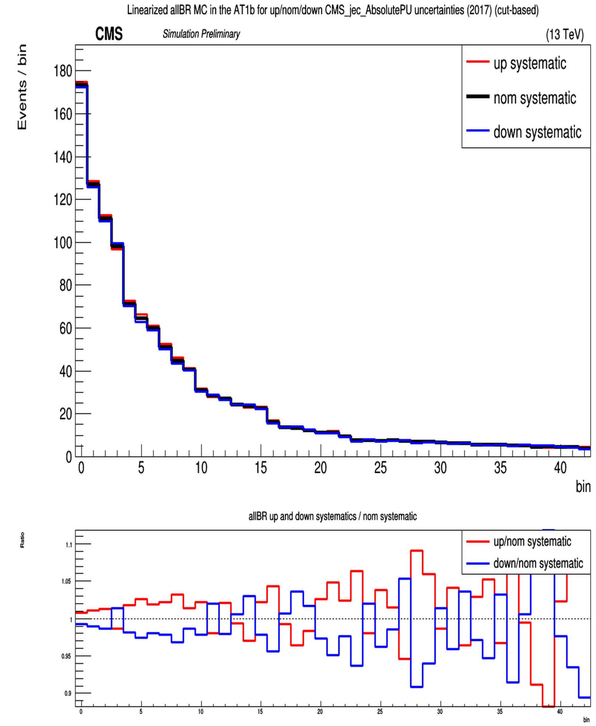

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsoluteMPFBias uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

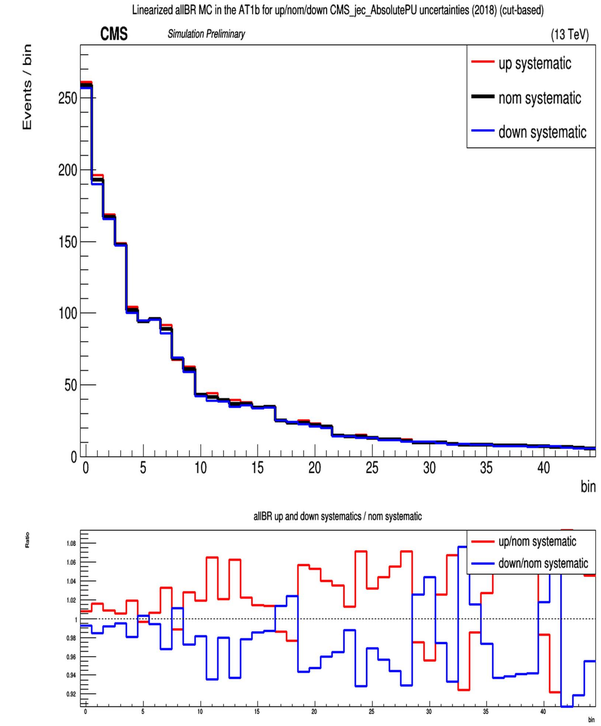

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsoluteMPFBias uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

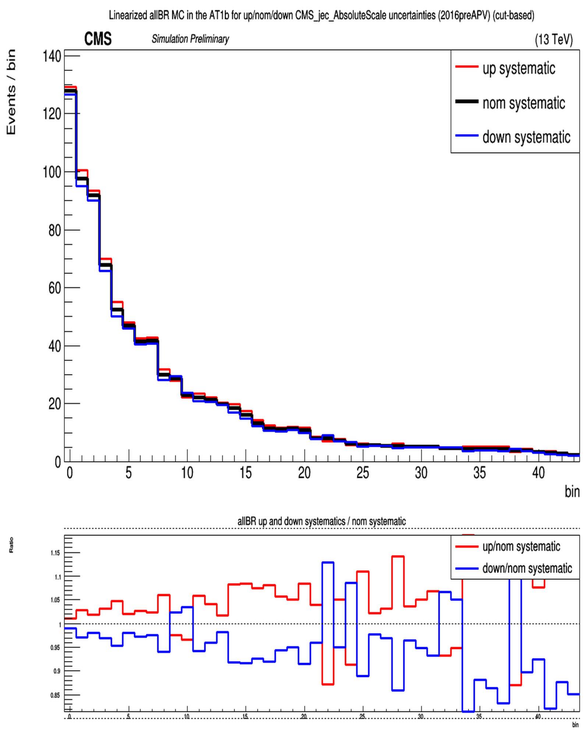

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsoluteMPFBias uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

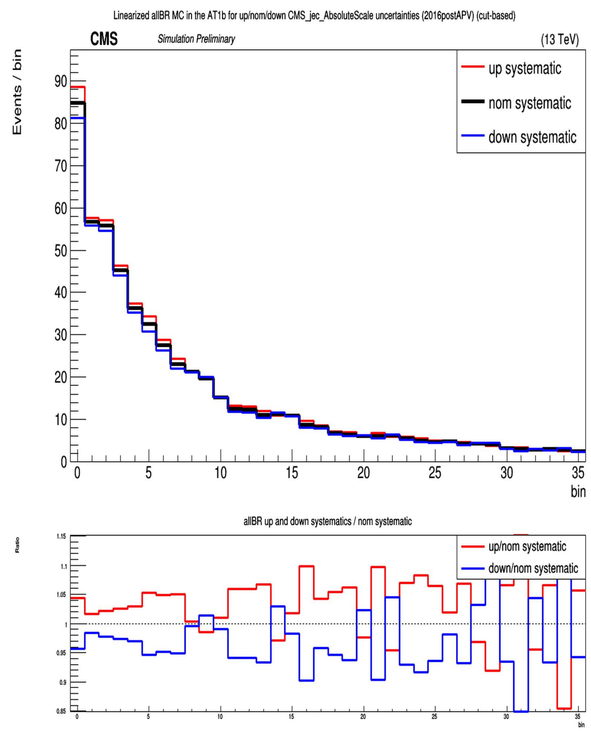

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsolutePU uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

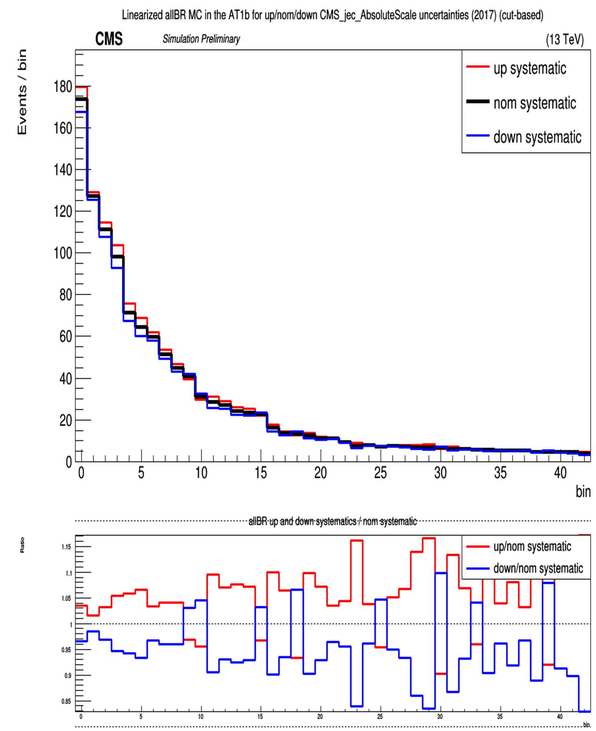

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsolutePU uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

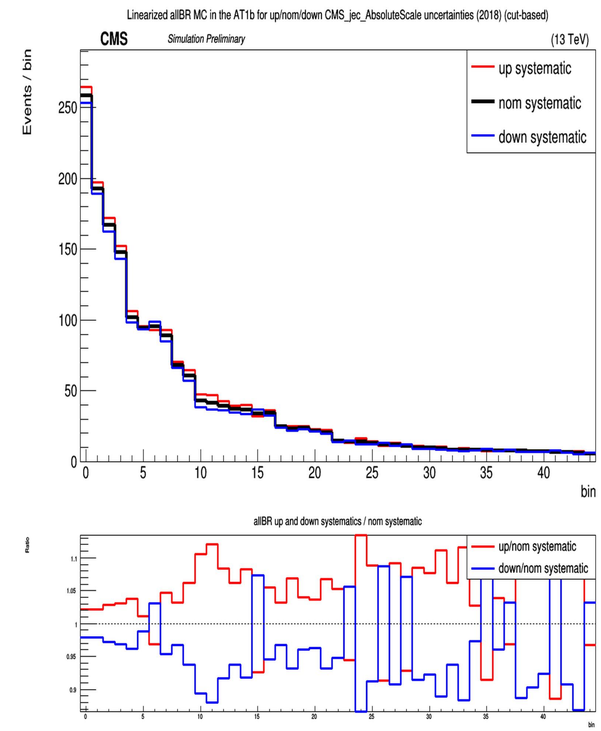

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsolutePU uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsolutePU uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

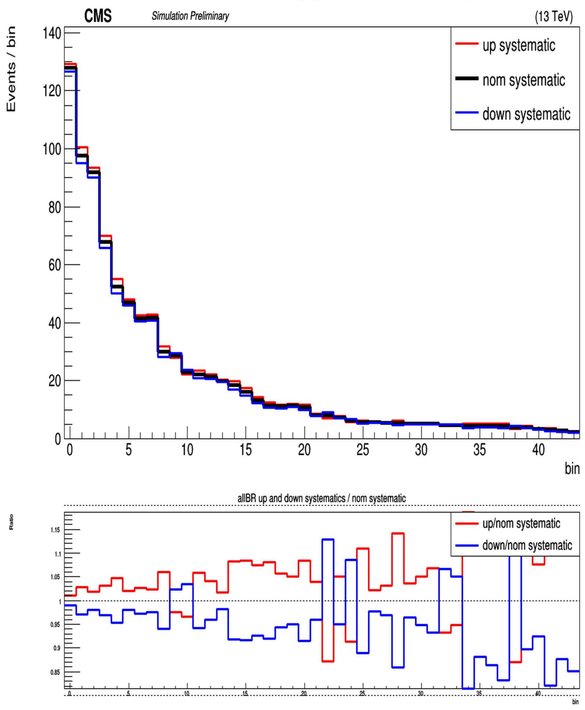

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsoluteScale uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsoluteScale uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

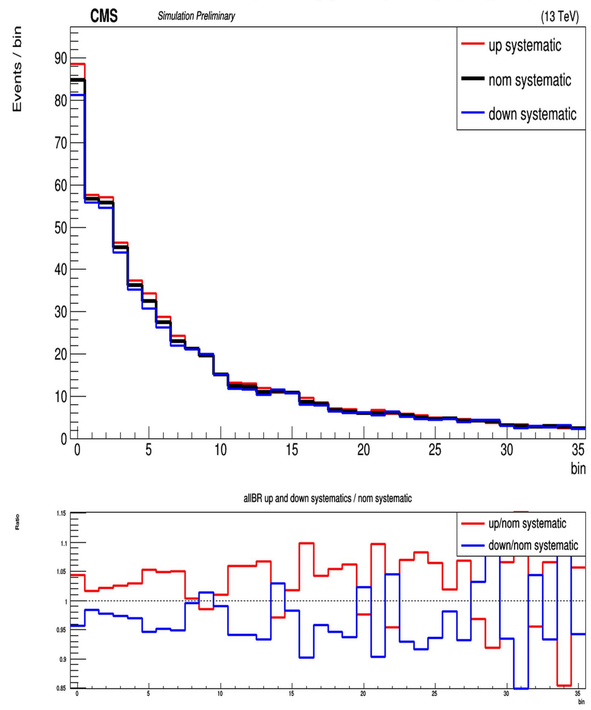

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsoluteScale uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsoluteScale uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

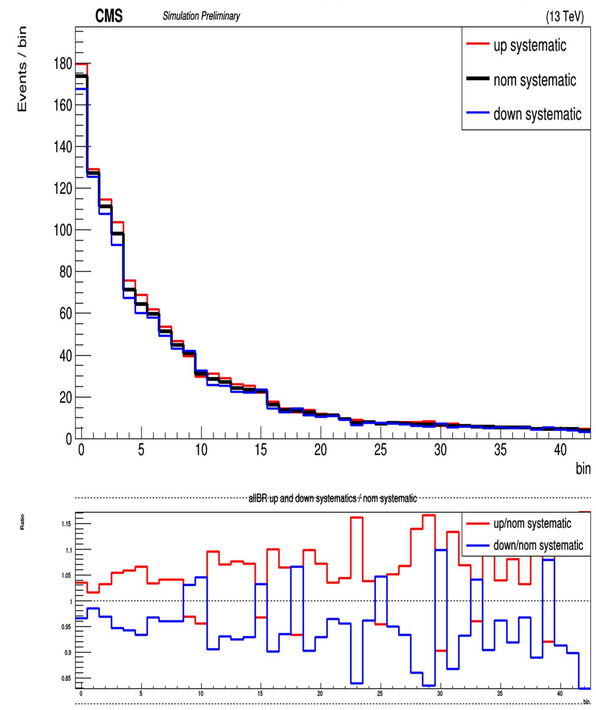
Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsoluteTheory uncertainties (2016preAPV) (cut-based)



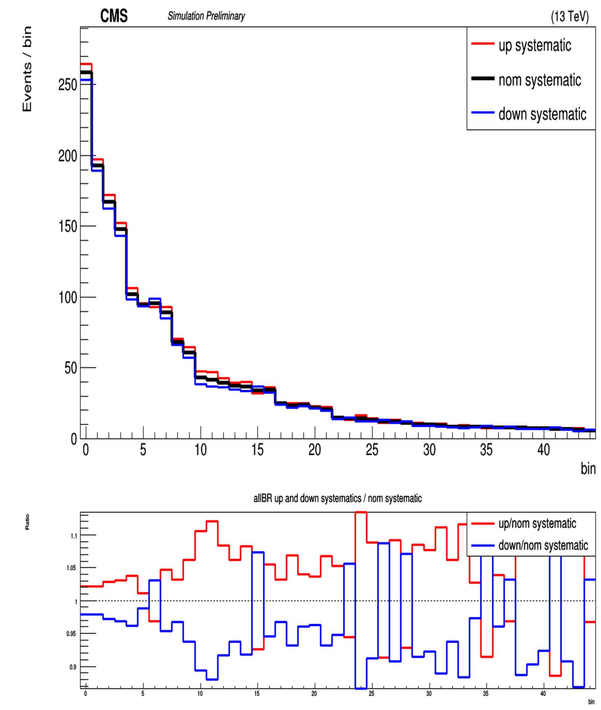

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsoluteTheory uncertainties (2016postAPV) (cut-based)



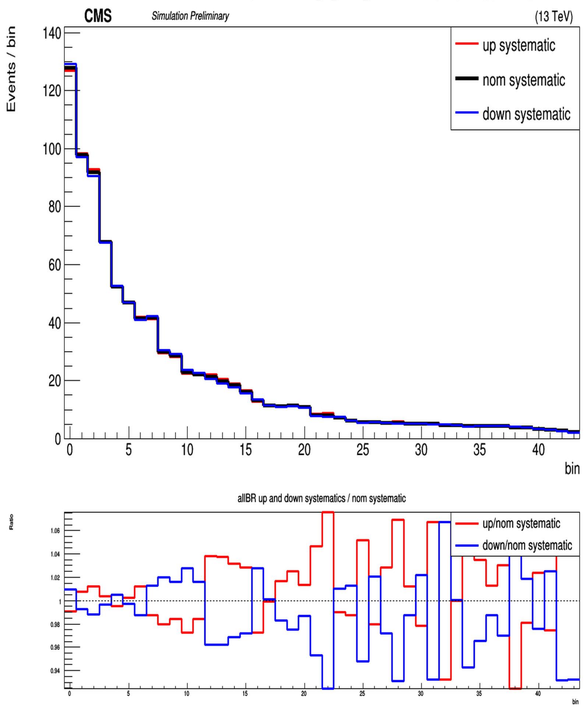

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsoluteTheory uncertainties (2017) (cut-based)



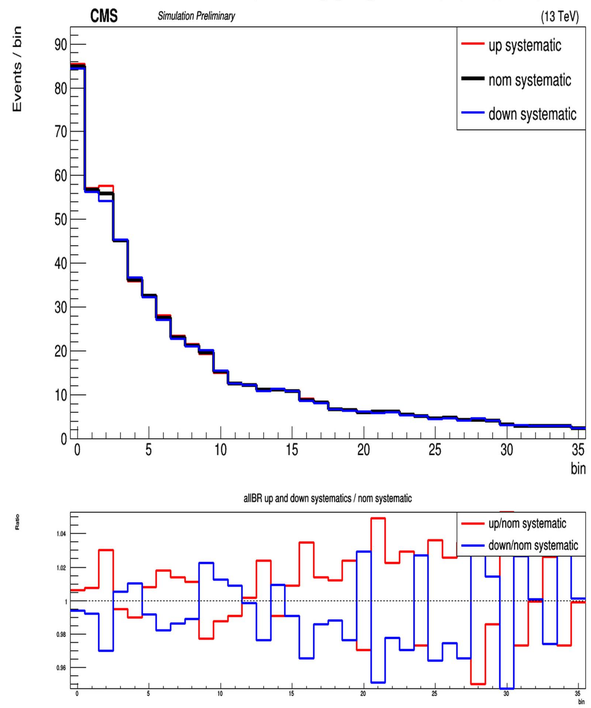

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_AbsoluteTheory uncertainties (2018) (cut-based)



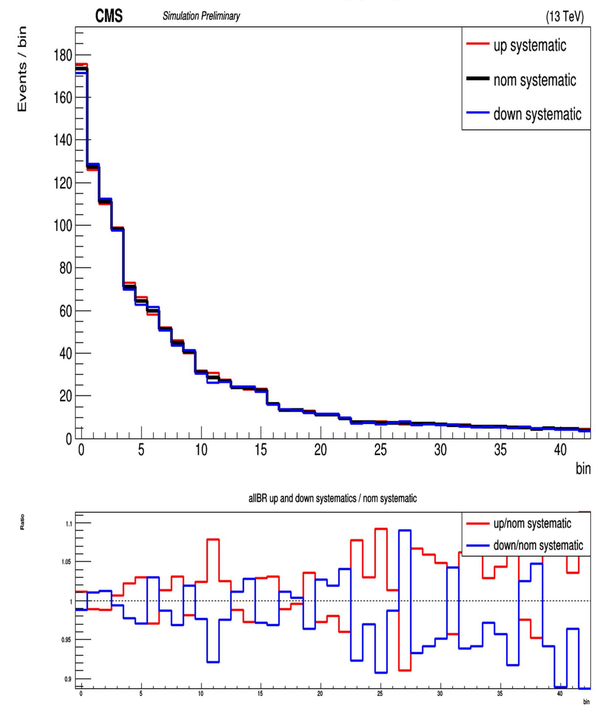

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_BBEC1_year uncertainties (2016preAPV) (cut-based)



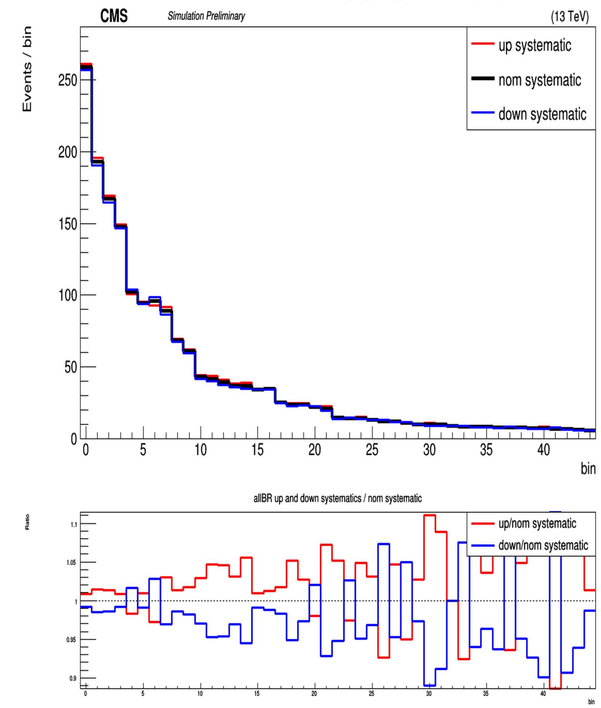

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_BBEC1_year uncertainties (2016postAPV) (cut-based)



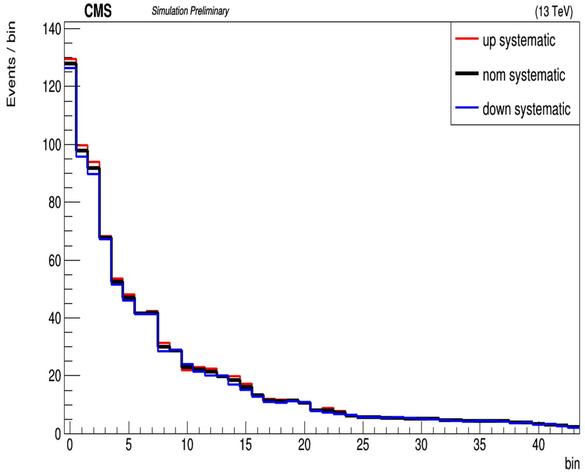

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_BBEC1_year uncertainties (2017) (cut-based)

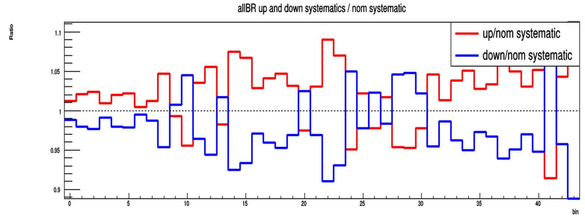



Linearized allBR MC in the AT1b for up/nom/down CMS_jec_BBEC1_year uncertainties (2018) (cut-based)

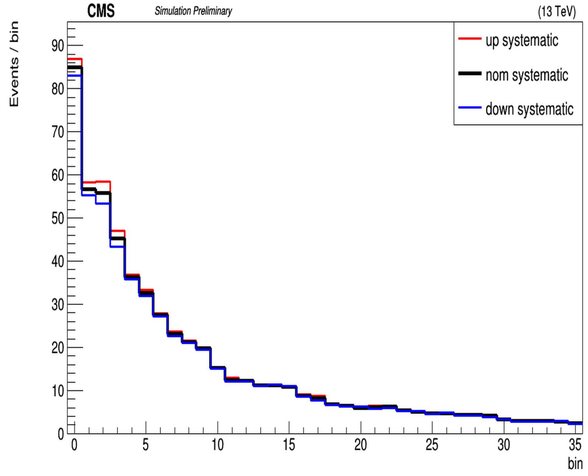


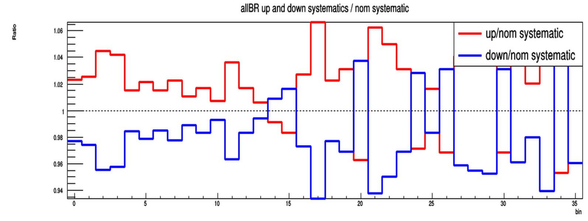
Linearized allBR MC in the AT1b for up/nom/down CMS_jec_FlavorQCD uncertainties (2016preAPV) (cut-based)



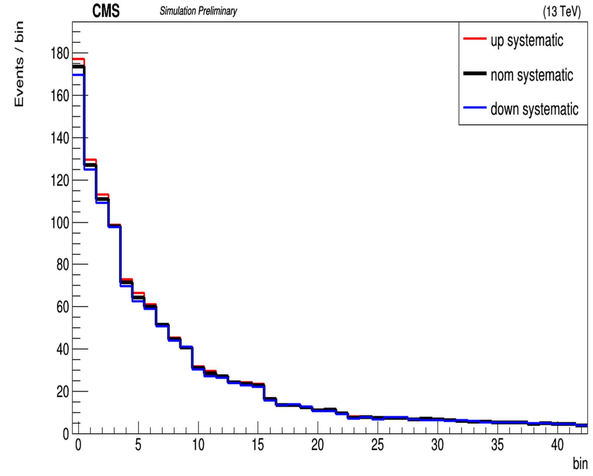



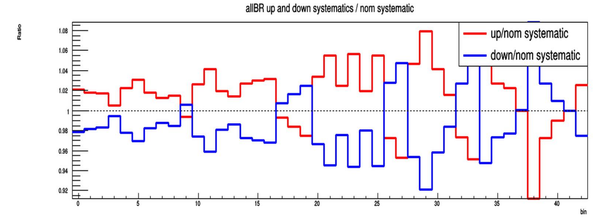

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_FlavorQCD uncertainties (2016postAPV) (cut-based)



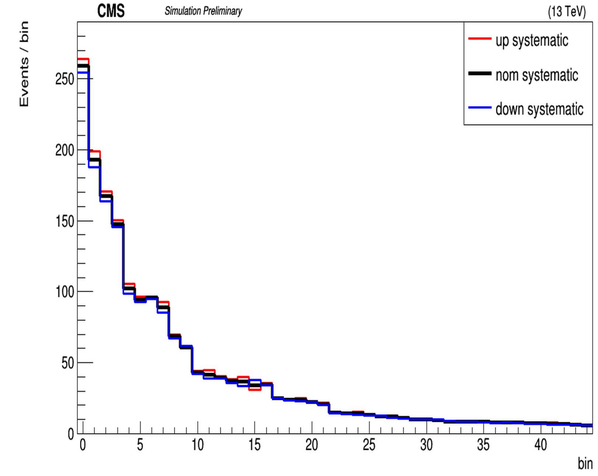



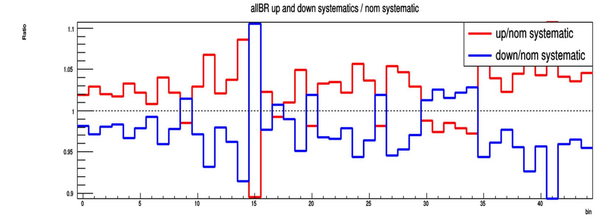

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_FlavorQCD uncertainties (2017) (cut-based)



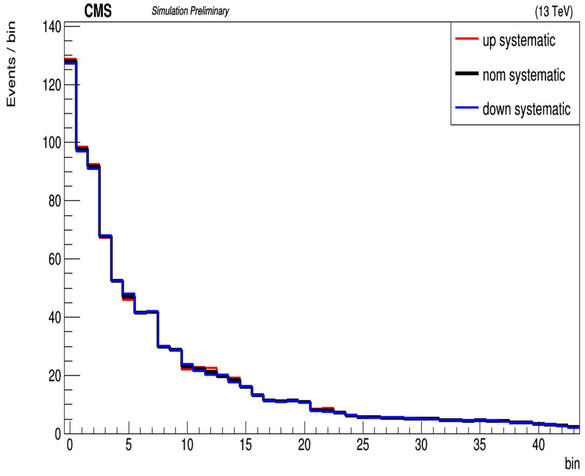



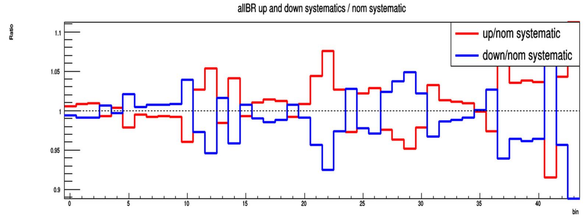

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_FlavorQCD uncertainties (2018) (cut-based)



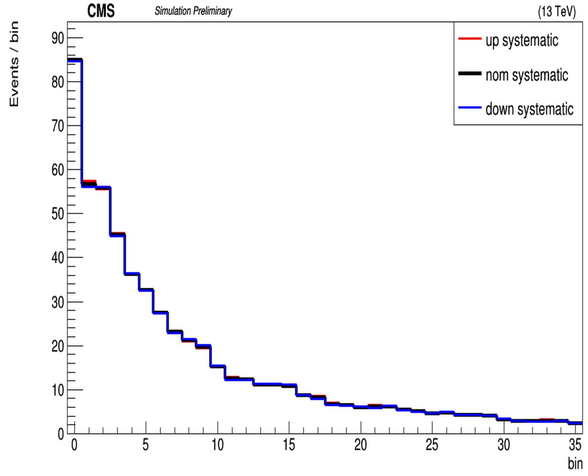



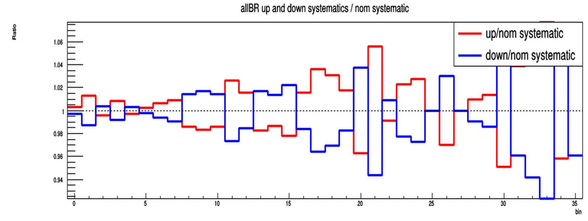

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_Fragmentation uncertainties (2016preAPV) (cut-based)



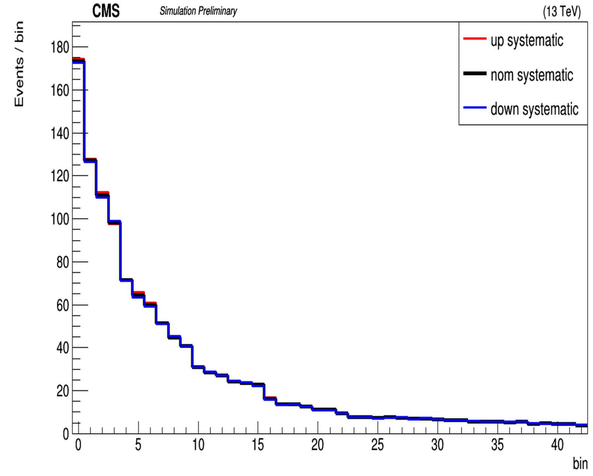



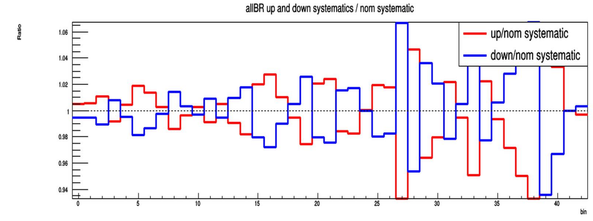

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_Fragmentation uncertainties (2016postAPV) (cut-based)



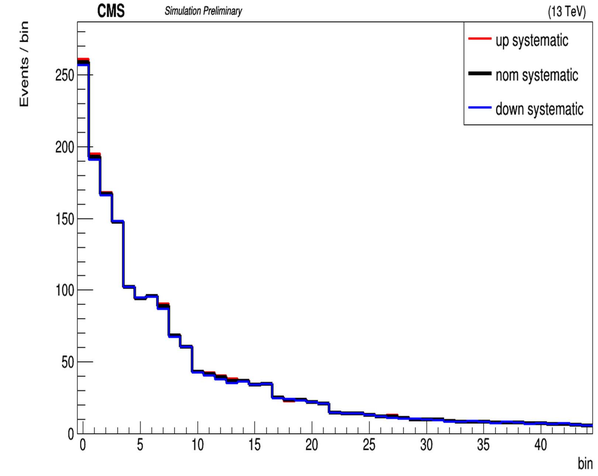



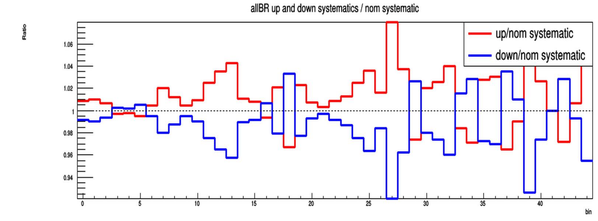

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_Fragmentation uncertainties (2017) (cut-based)

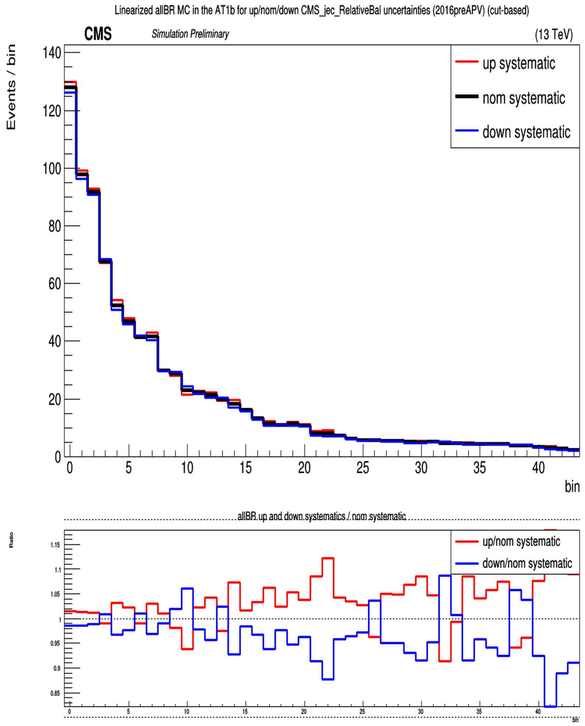


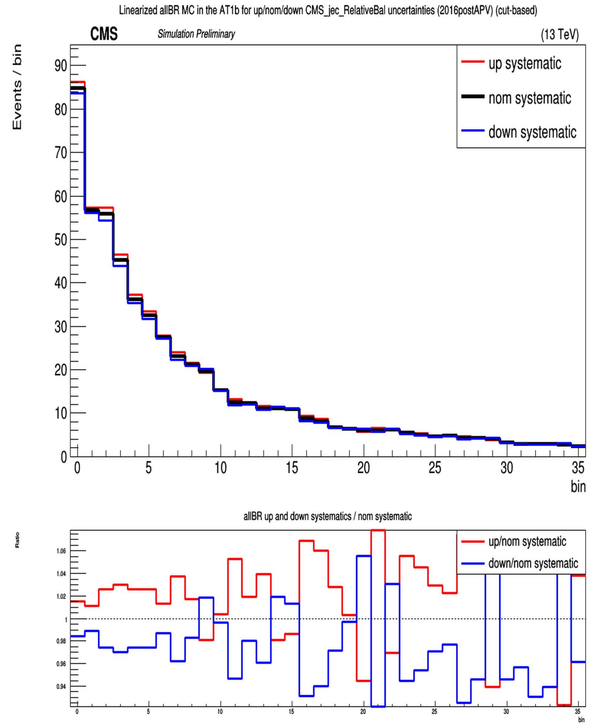



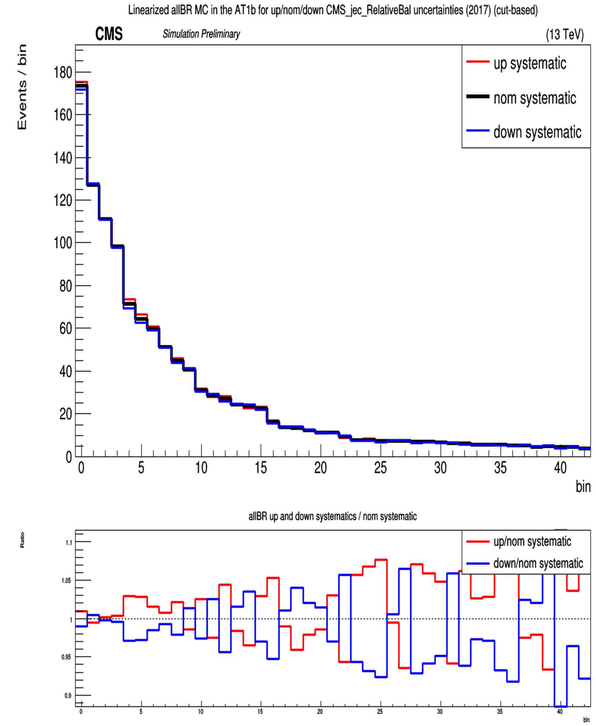

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_Fragmentation uncertainties (2018) (cut-based)

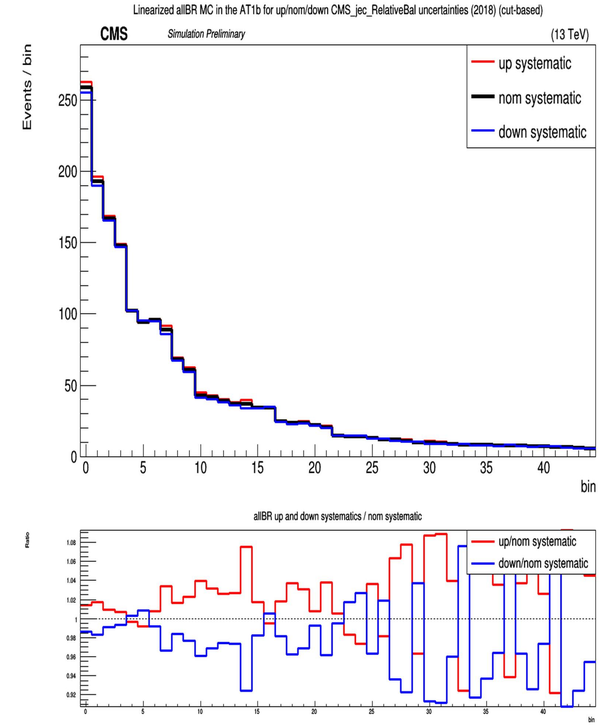


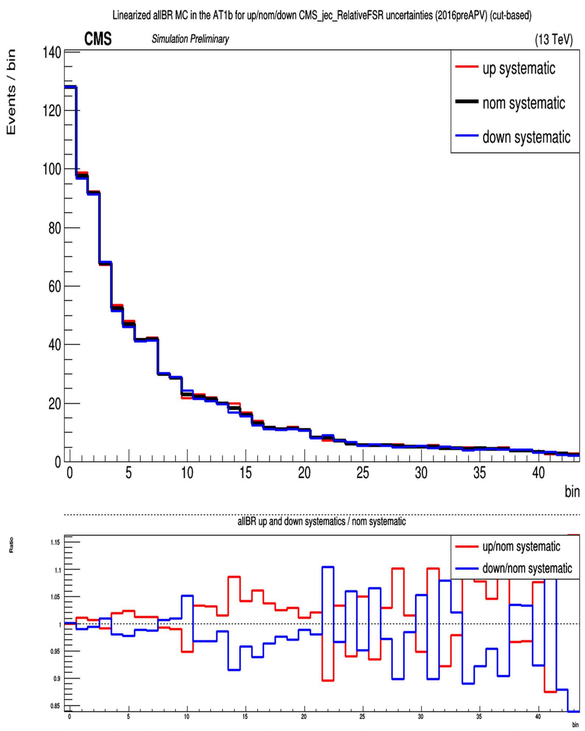



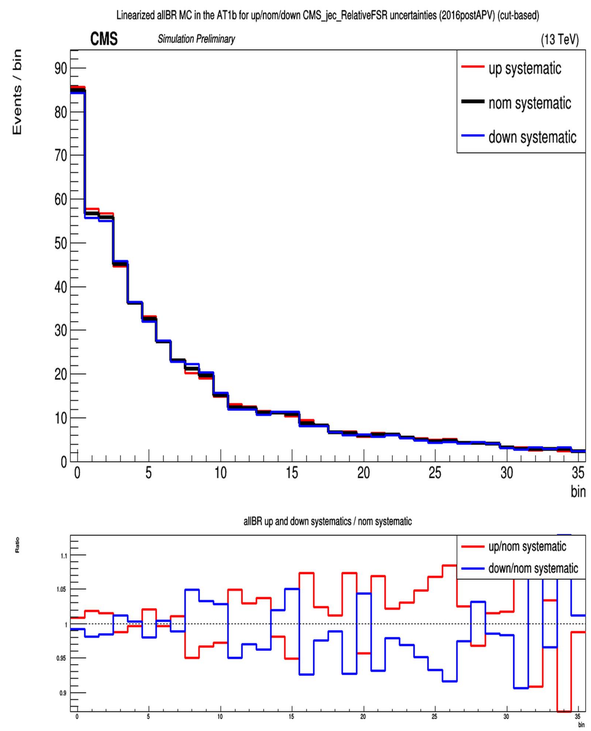

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_RelativeBal uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

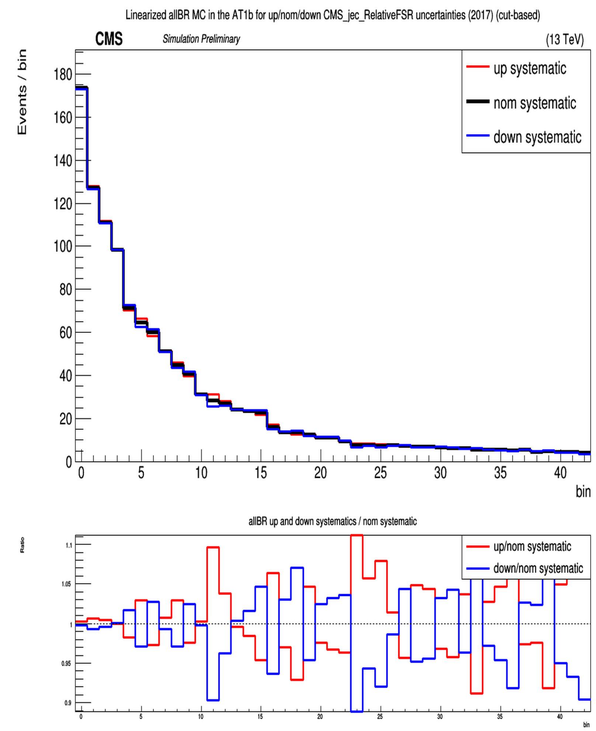

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_RelativeBal uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

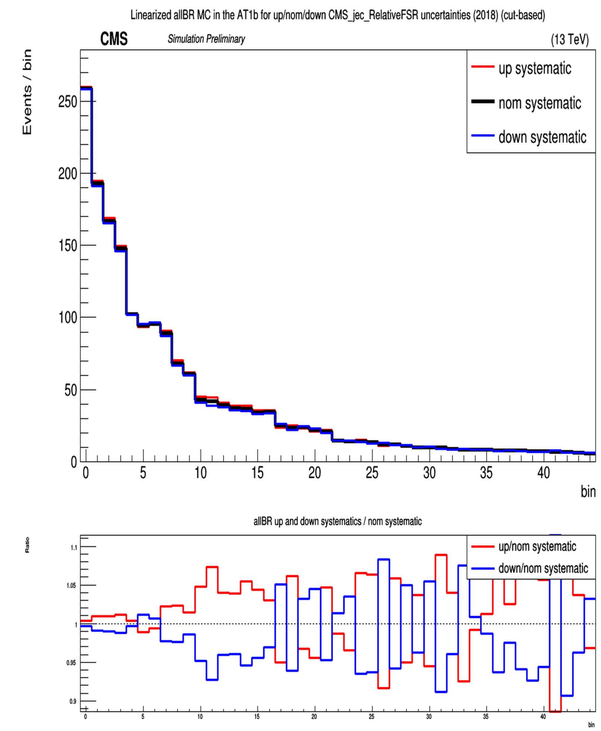

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_RelativeBal uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

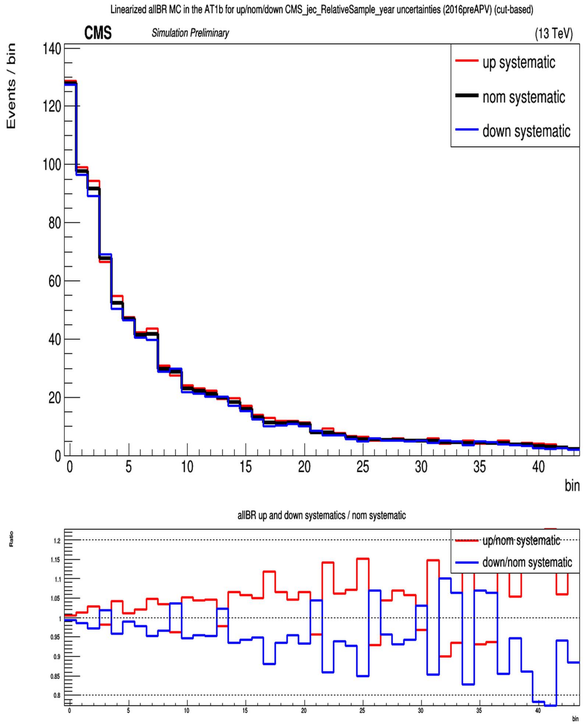

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_RelativeBal uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

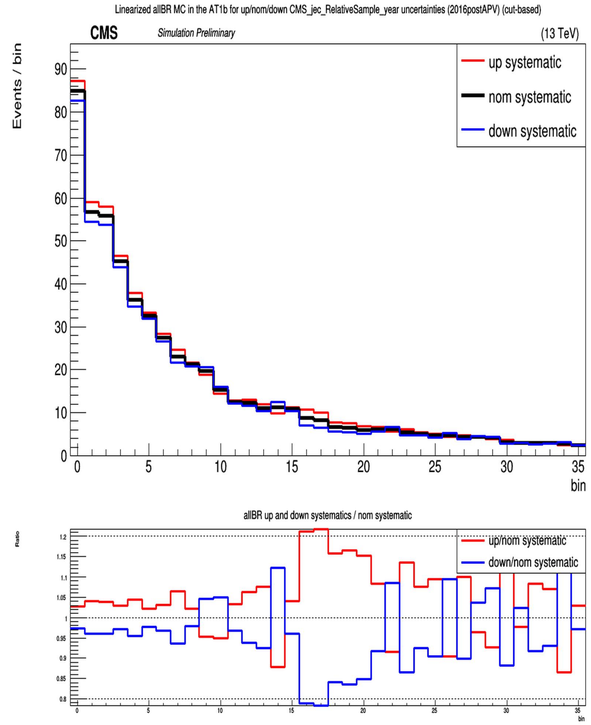

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_RelativeFSR uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

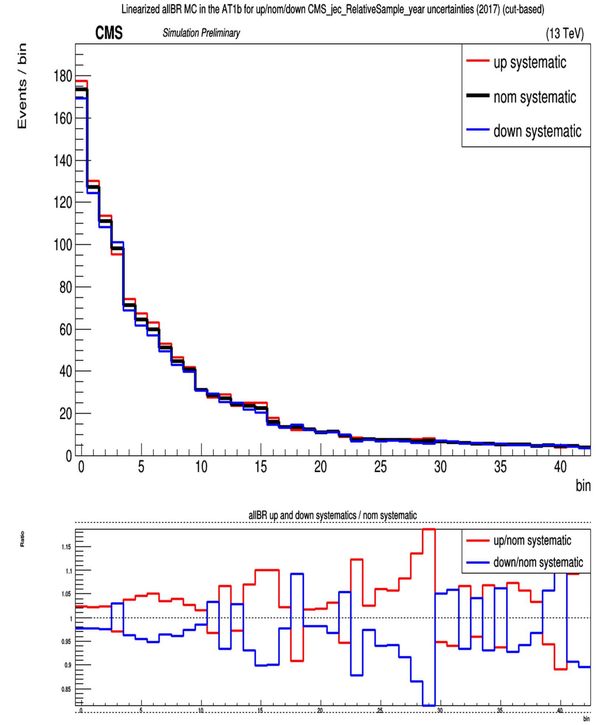

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_RelativeFSR uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

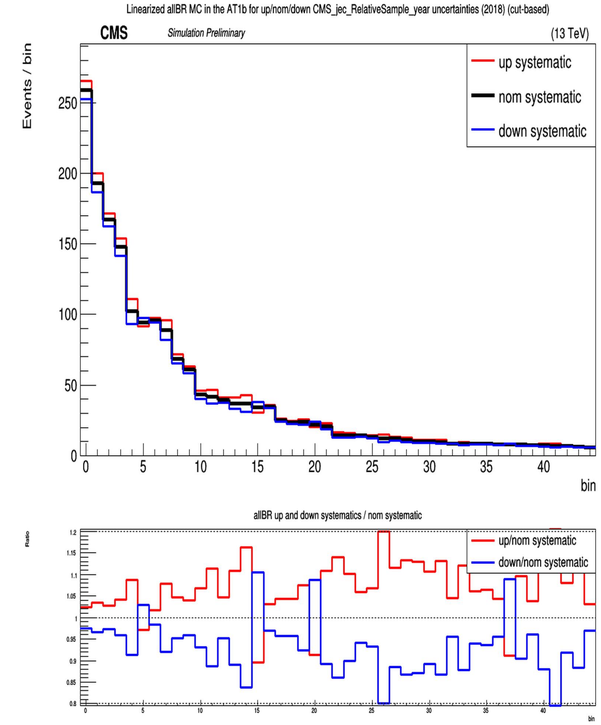

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_RelativeFSR uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

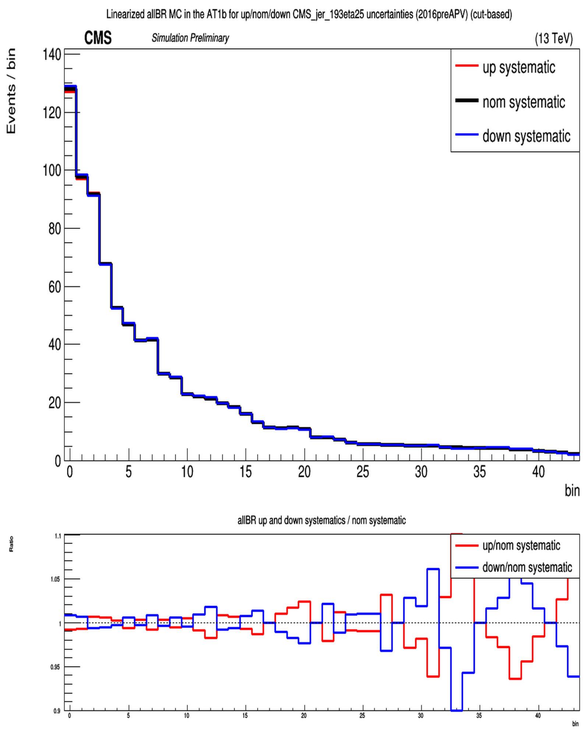

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_RelativeFSR uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

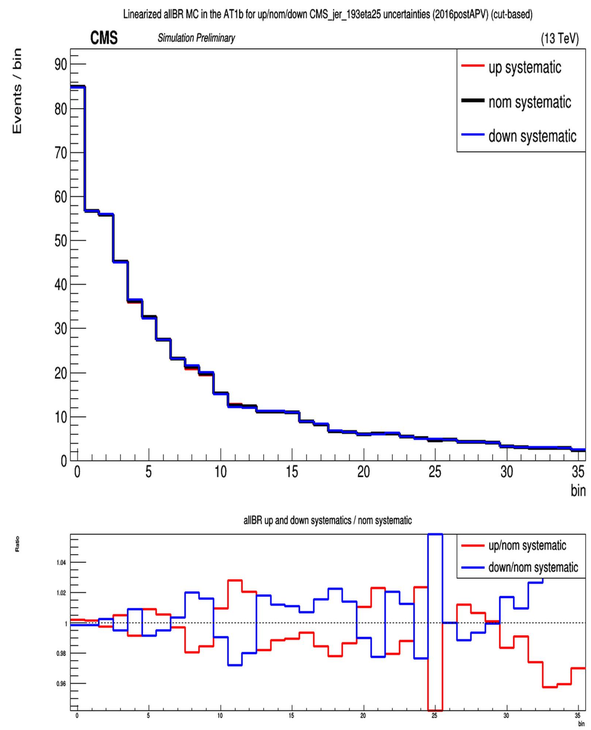

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_RelativeSample_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

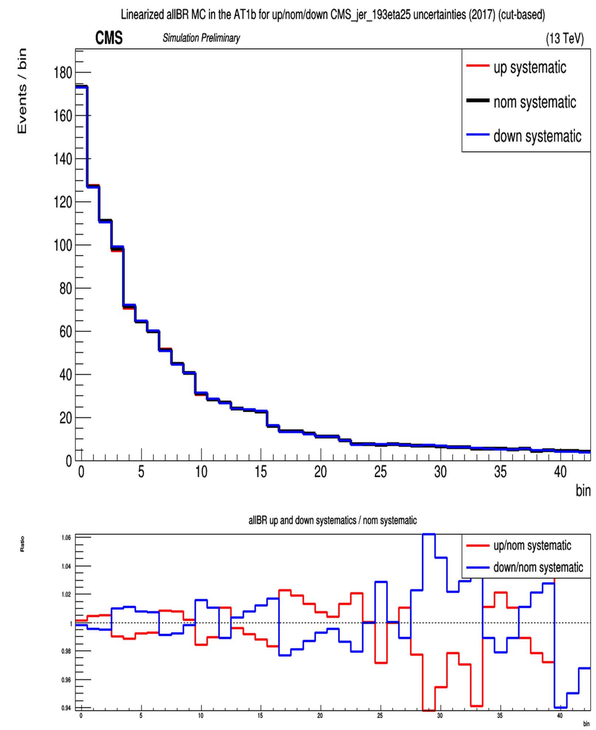

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_RelativeSample_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

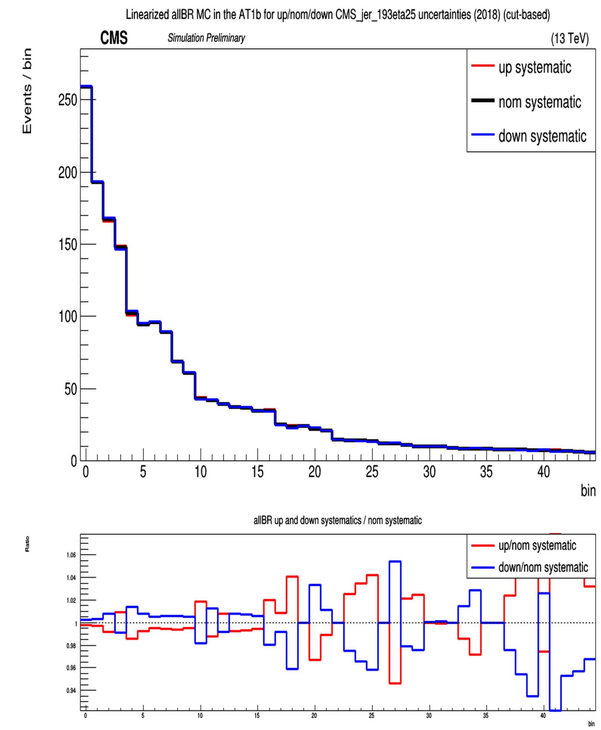

Linearized allBR MC in the AT1b for up/nom/down CMS_jec_RelativeSample_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized allBR MC in the AT1b for up/nom/down CMS_jec_RelativeSample_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

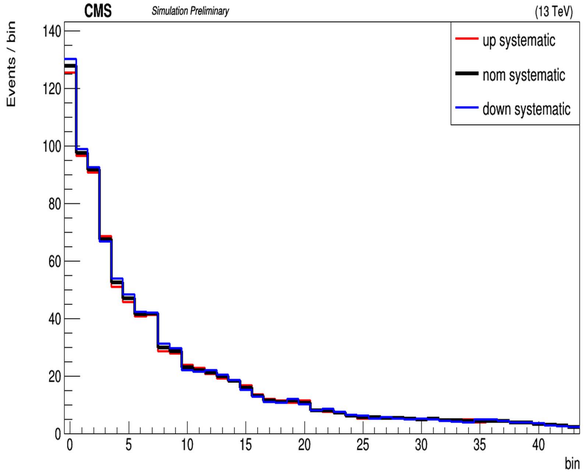

Linearized allBR MC in the AT1b for up/nom/down CMS_jer_193eta25 uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

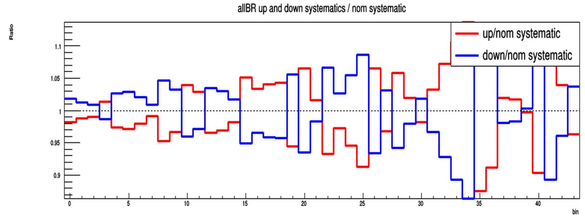

Linearized allBR MC in the AT1b for up/nom/down CMS_jer_193eta25 uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized allBR MC in the AT1b for up/nom/down CMS_jer_193eta25 uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

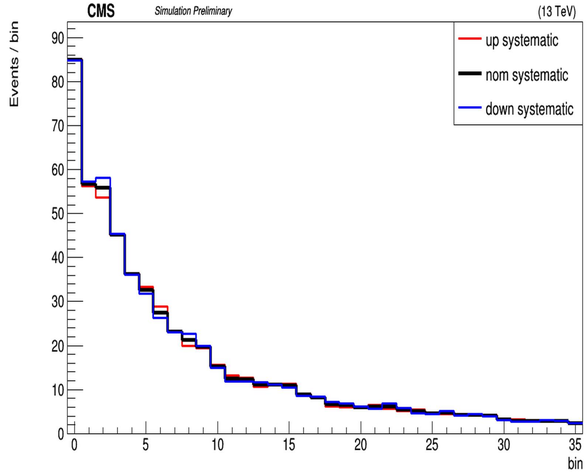

Linearized allBR MC in the AT1b for up/nom/down CMS_jer_193eta25 uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
allBR up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

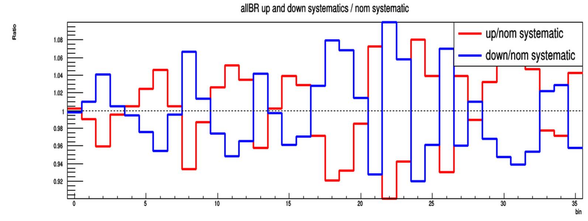
Linearized allBR MC in the AT1b for up/nom/down CMS_jer uncertainties (2016preAPV) (cut-based)



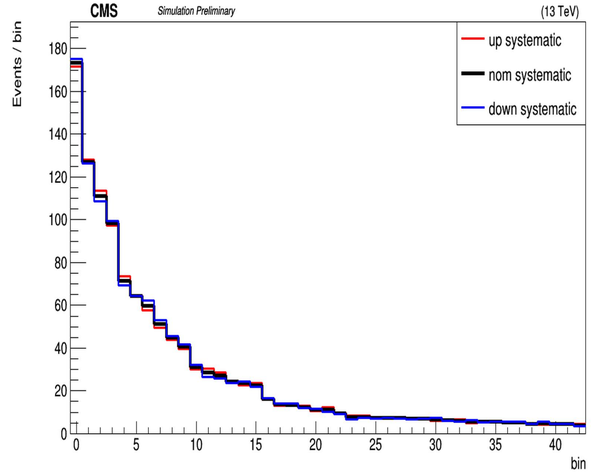



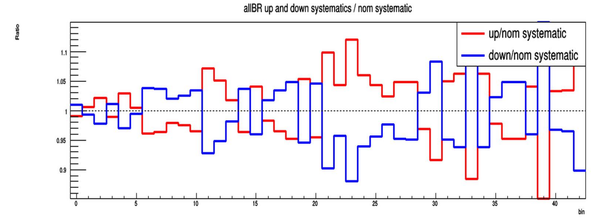

Linearized allBR MC in the AT1b for up/nom/down CMS_jer uncertainties (2016postAPV) (cut-based)



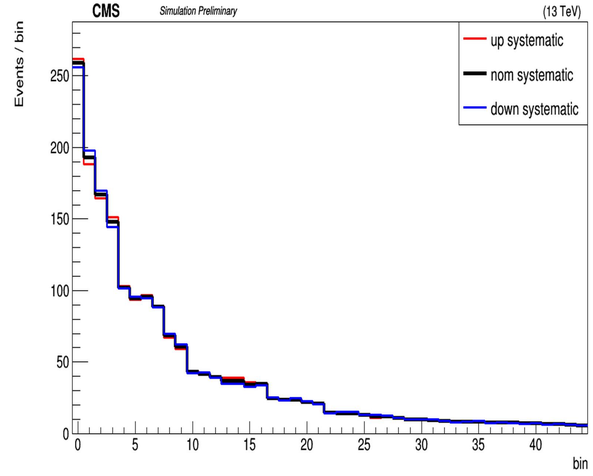



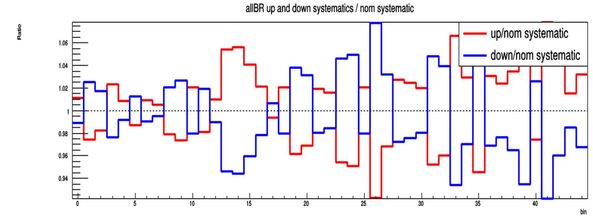

Linearized allBR MC in the AT1b for up/nom/down CMS_jer uncertainties (2017) (cut-based)



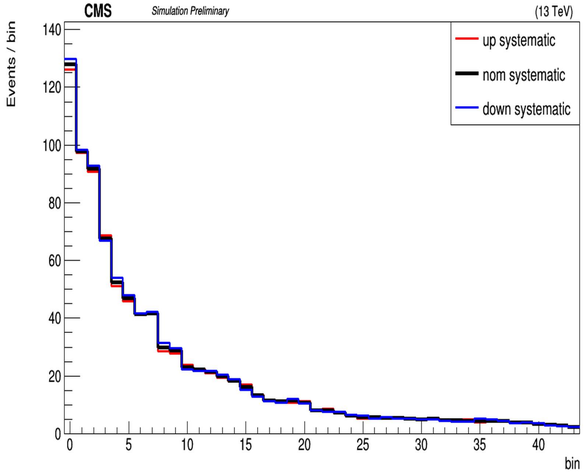



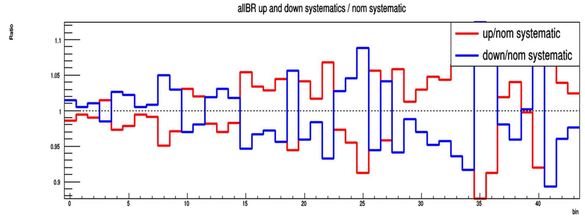

Linearized allBR MC in the AT1b for up/nom/down CMS_jer uncertainties (2018) (cut-based)



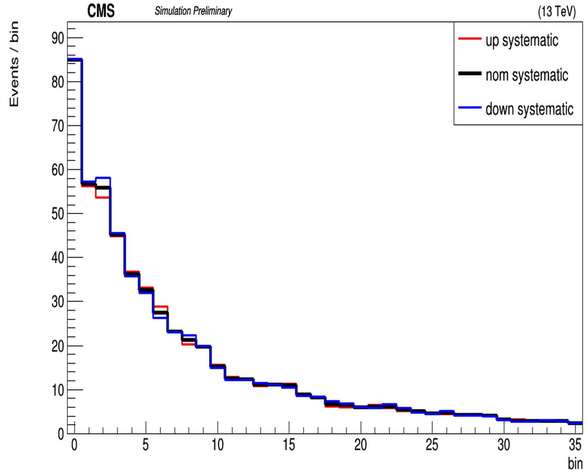



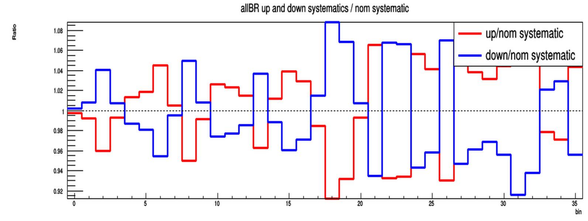

Linearized allBR MC in the AT1b for up/nom/down CMS_jer_eta193 uncertainties (2016preAPV) (cut-based)



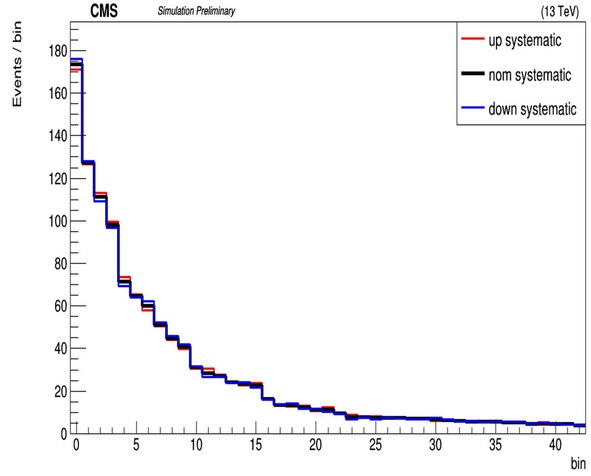



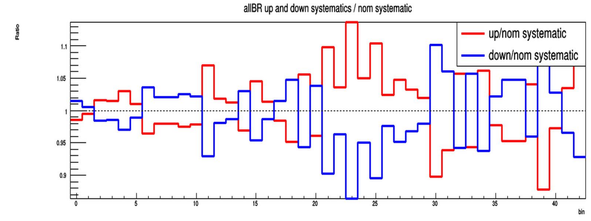

Linearized allBR MC in the AT1b for up/nom/down CMS_jer_eta193 uncertainties (2016postAPV) (cut-based)



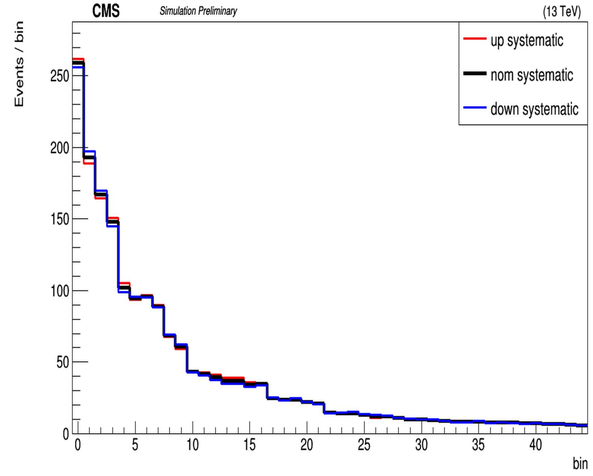



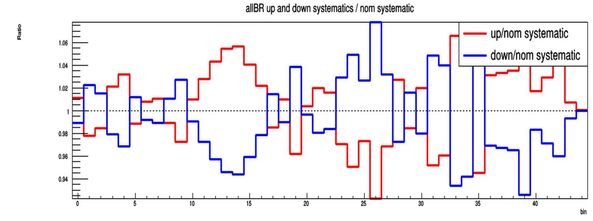

Linearized allBR MC in the AT1b for up/nom/down CMS_jer_eta193 uncertainties (2017) (cut-based)

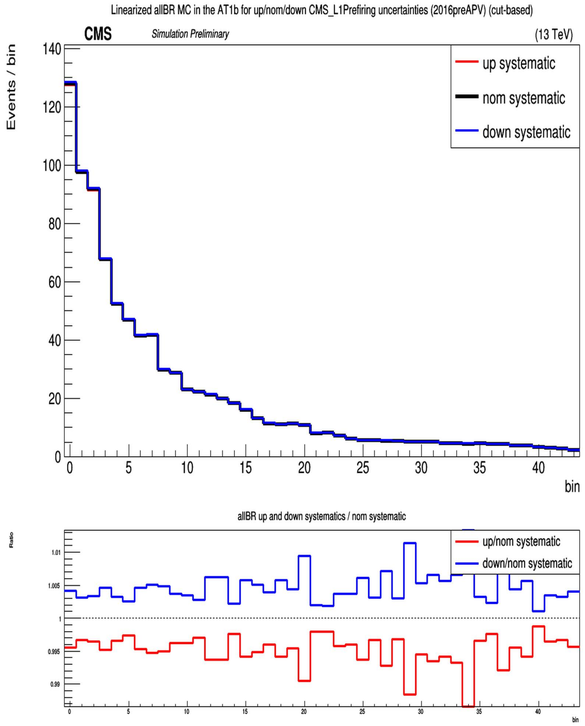


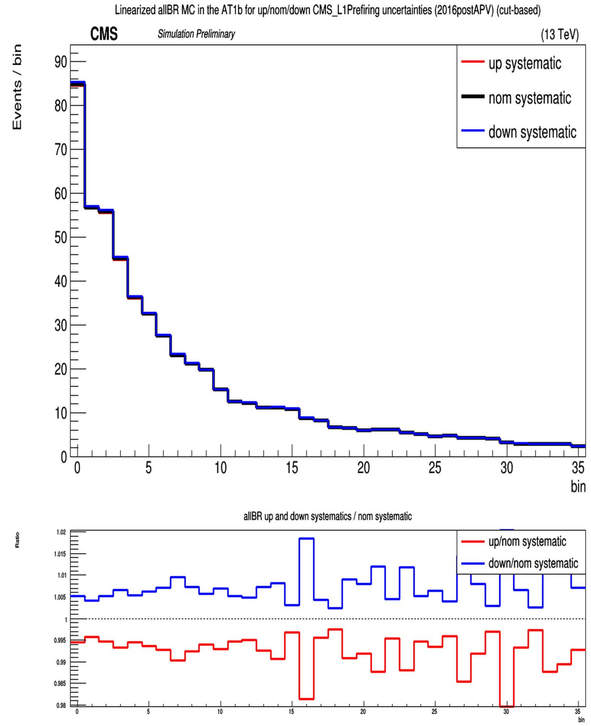



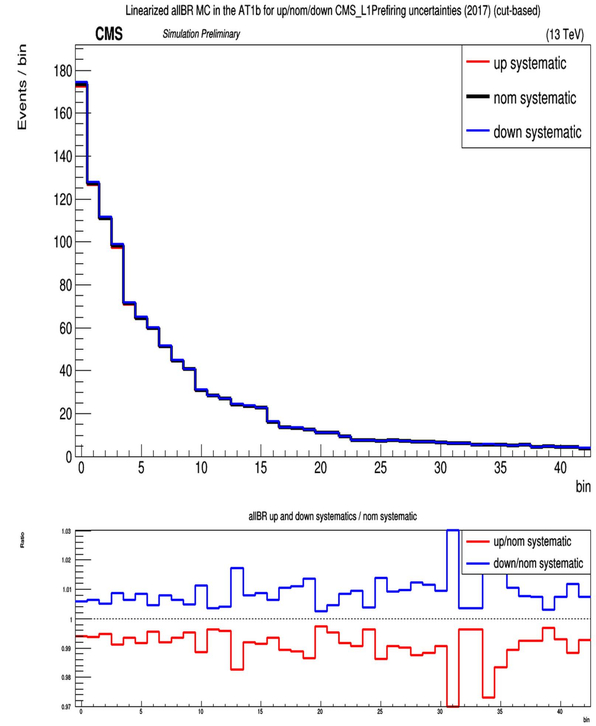

Linearized allBR MC in the AT1b for up/nom/down CMS_jer_eta193 uncertainties (2018) (cut-based)

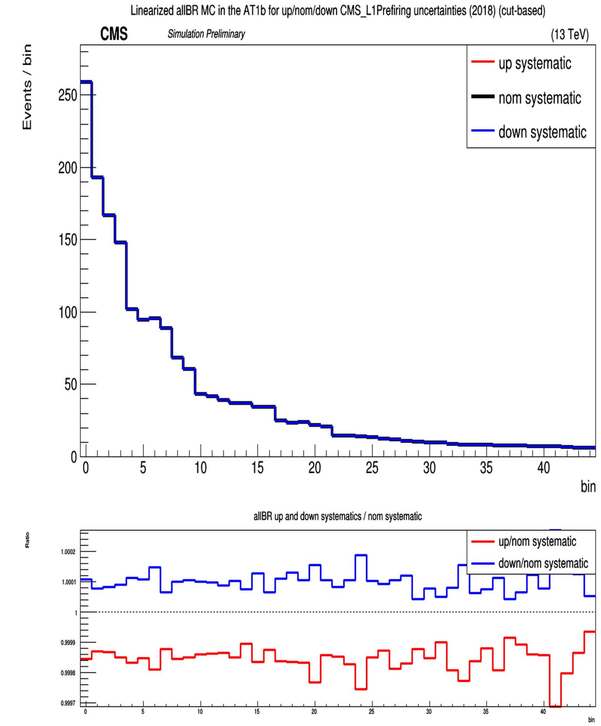


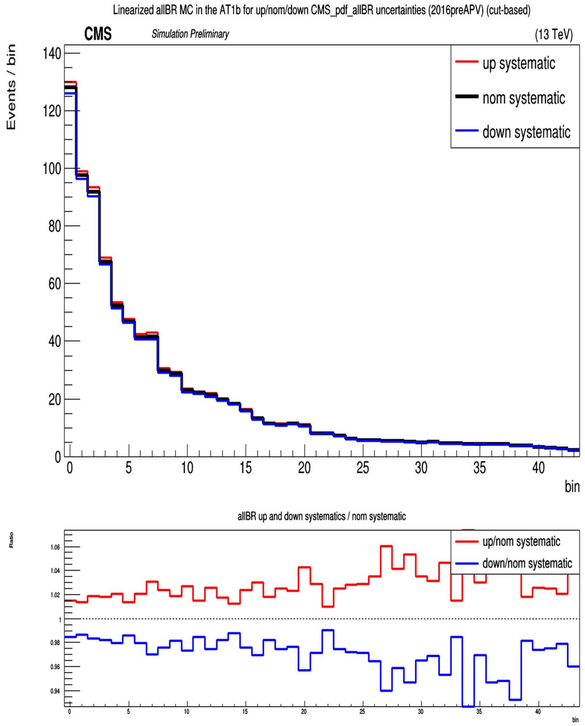



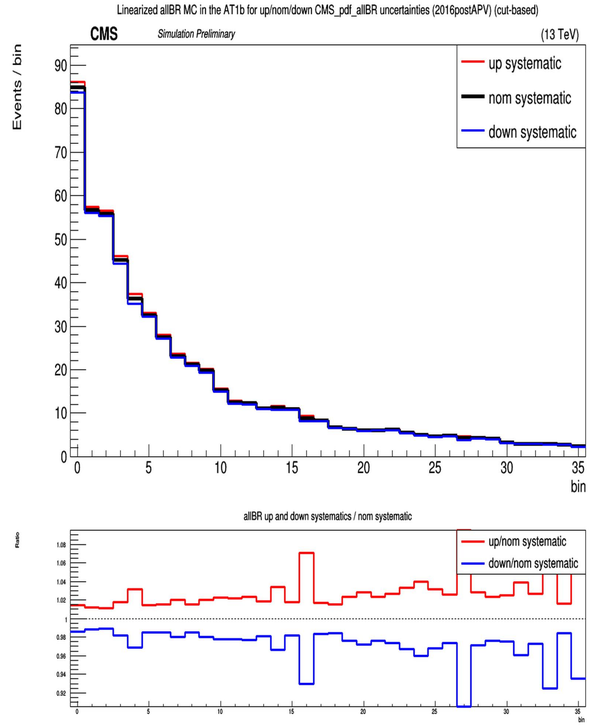

Linearized allBR MC in the AT1b for up/nom/down CMS_L1Prefiring uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

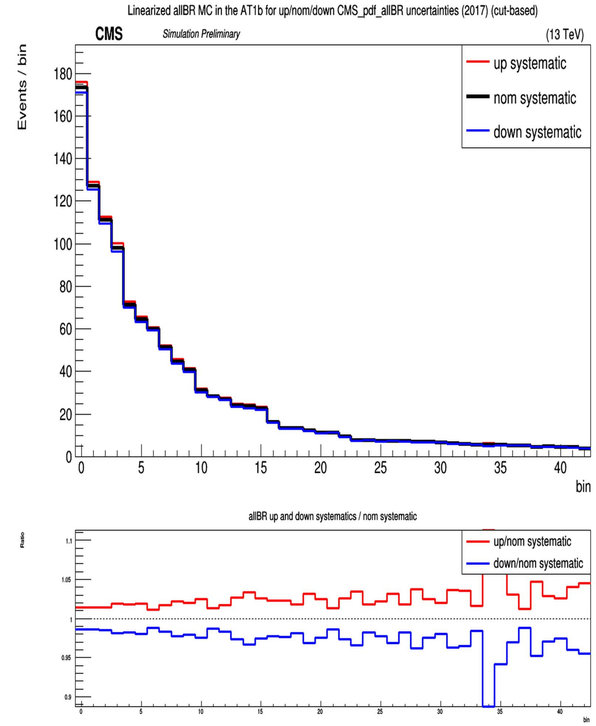

Linearized allBR MC in the AT1b for up/nom/down CMS_L1Prefiring uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

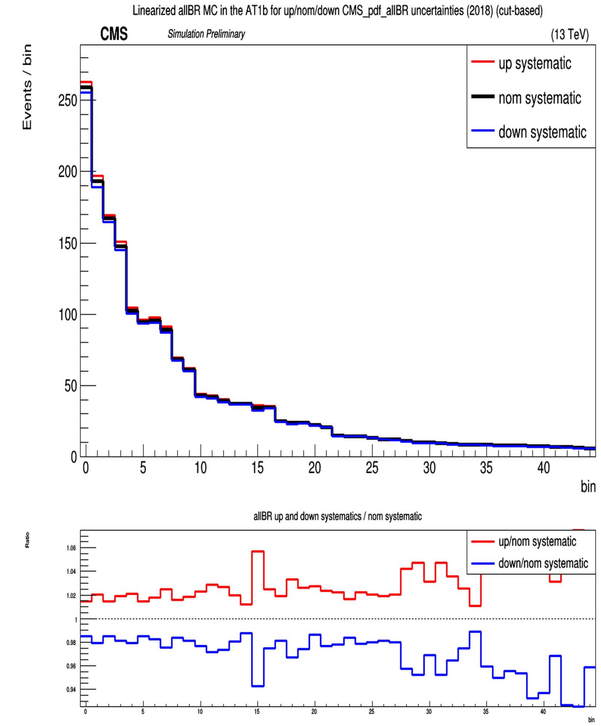

Linearized allBR MC in the AT1b for up/nom/down CMS_L1Prefiring uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio


Linearized allBR MC in the AT1b for up/nom/down CMS_L1Prefiring uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

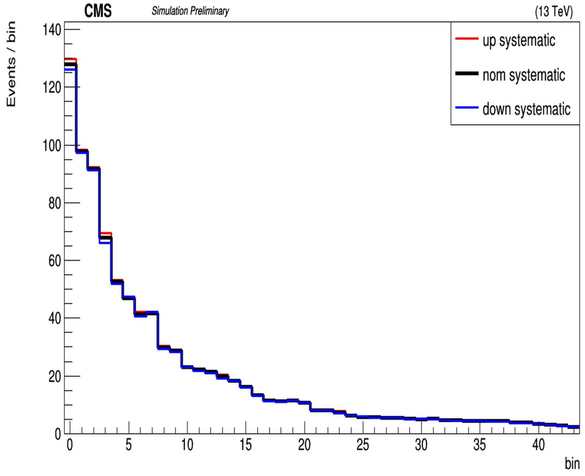

Linearized allBR MC in the AT1b for up/nom/down CMS_pdf_allBR uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

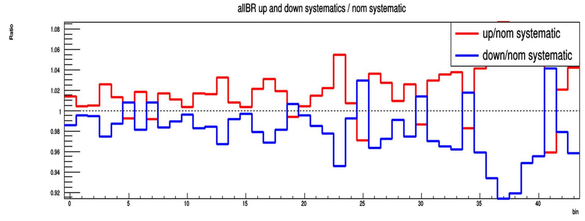

Linearized allBR MC in the AT1b for up/nom/down CMS_pdf_allBR uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio


Linearized allBR MC in the AT1b for up/nom/down CMS_pdf_allBR uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

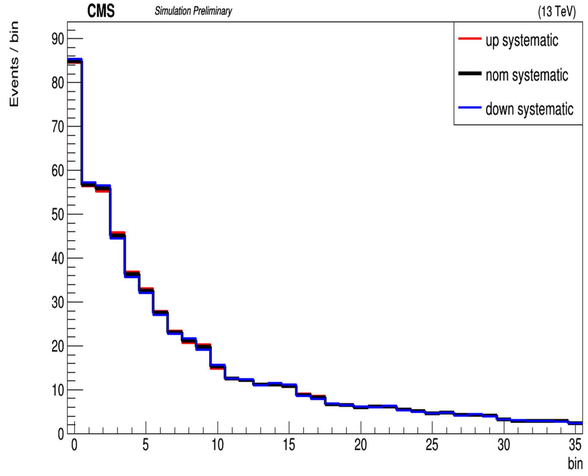

Linearized allBR MC in the AT1b for up/nom/down CMS_pdf_allBR uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
allBR up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

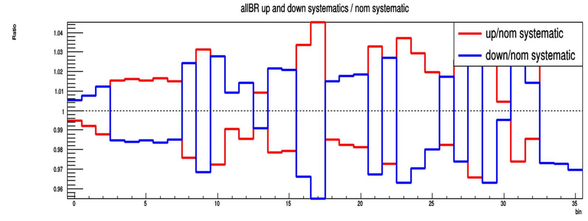
Linearized allBR MC in the AT1b for up/nom/down CMS_pu uncertainties (2016preAPV) (cut-based)



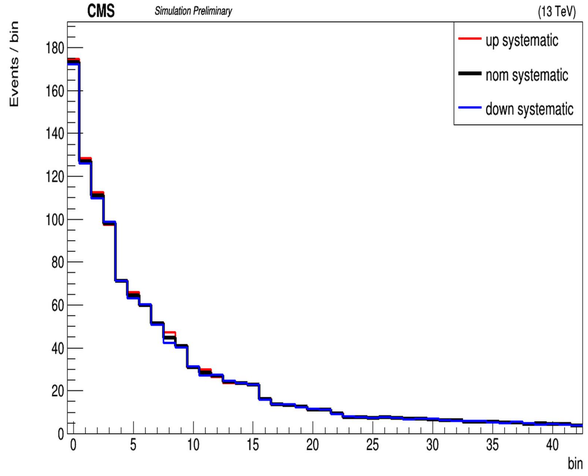



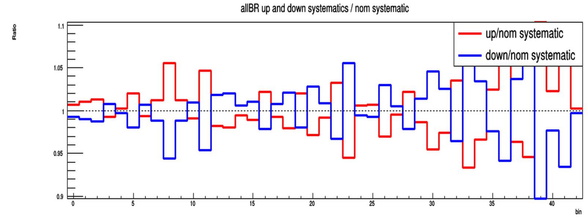

Linearized allBR MC in the AT1b for up/nom/down CMS_pu uncertainties (2016postAPV) (cut-based)



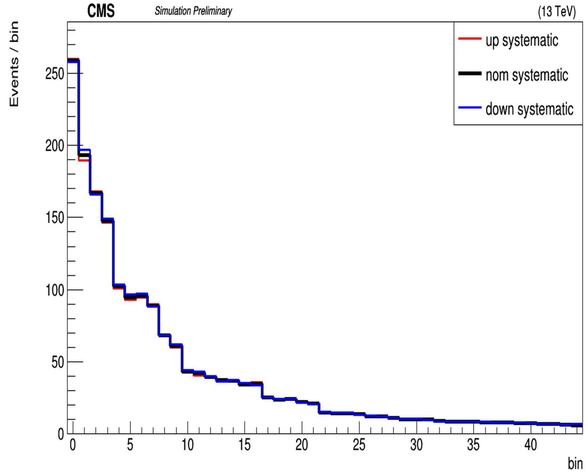



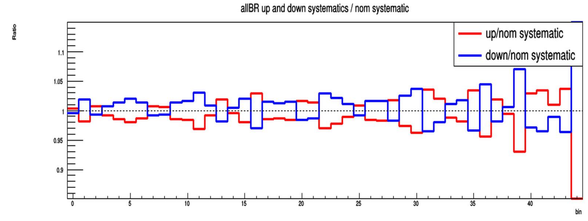

Linearized allBR MC in the AT1b for up/nom/down CMS_pu uncertainties (2017) (cut-based)



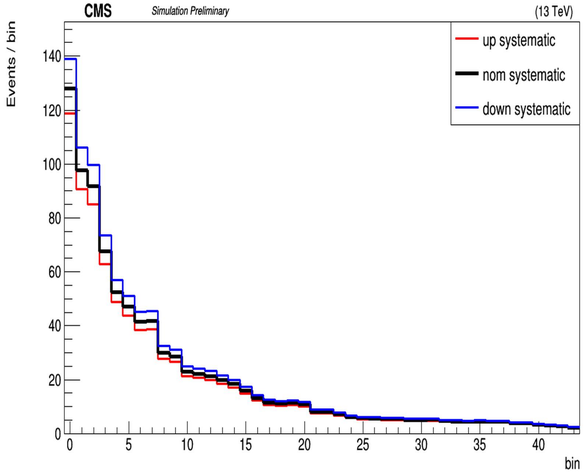



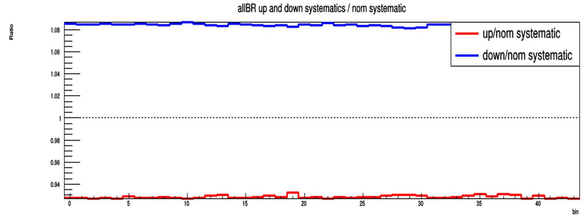

Linearized allBR MC in the AT1b for up/nom/down CMS_pu uncertainties (2018) (cut-based)



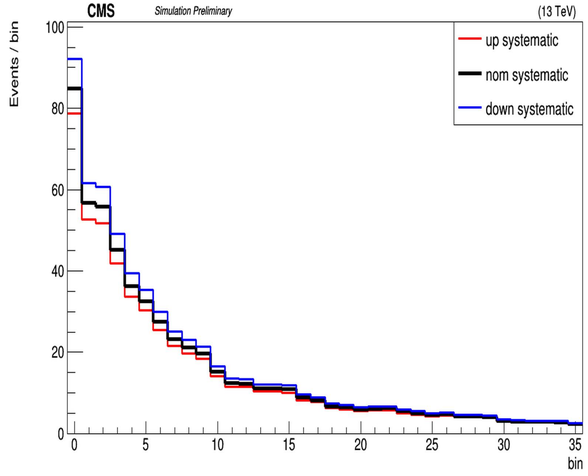



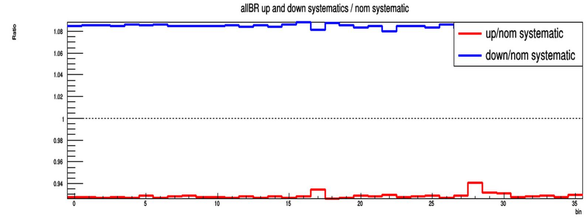

Linearized allBR MC in the AT1b for up/nom/down CMS_renorm_allBR uncertainties (2016preAPV) (cut-based)



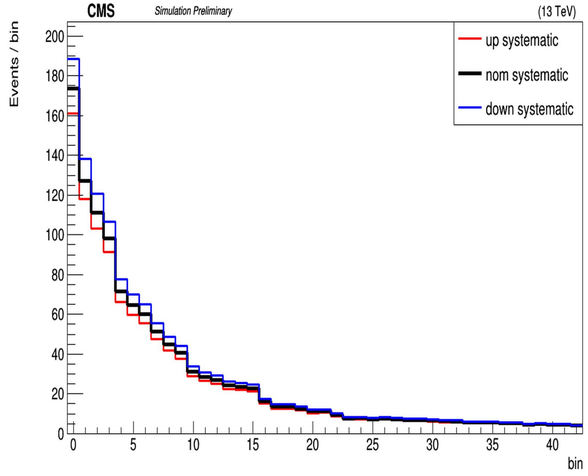



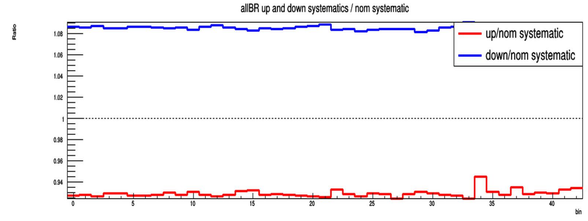

Linearized allBR MC in the AT1b for up/nom/down CMS_renorm_allBR uncertainties (2016postAPV) (cut-based)



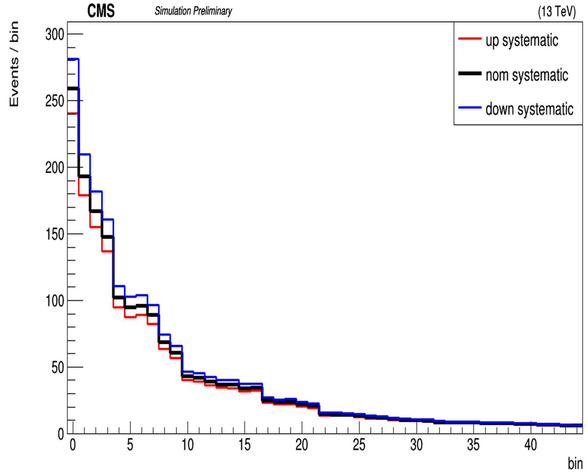



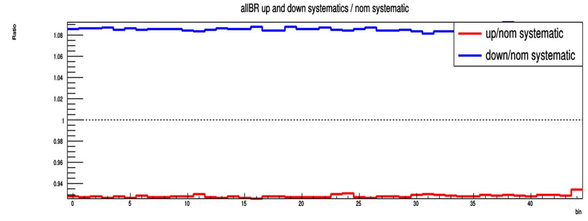

Linearized allBR MC in the AT1b for up/nom/down CMS_renorm_allBR uncertainties (2017) (cut-based)



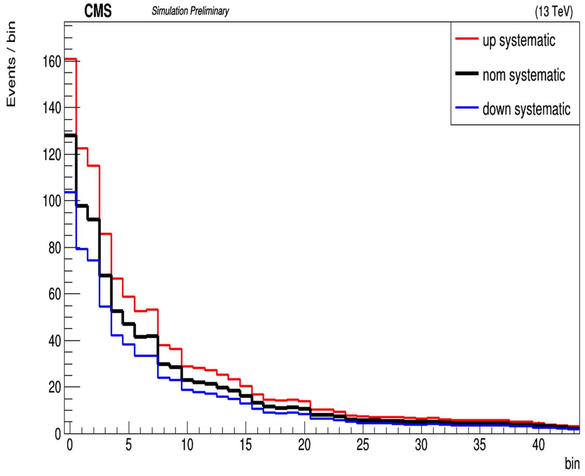



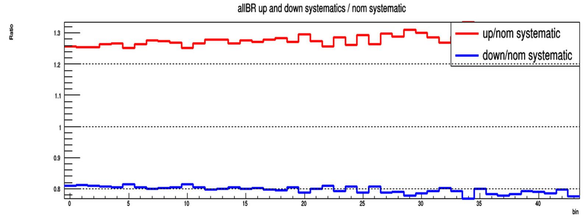

Linearized allBR MC in the AT1b for up/nom/down CMS_renorm_allBR uncertainties (2018) (cut-based)



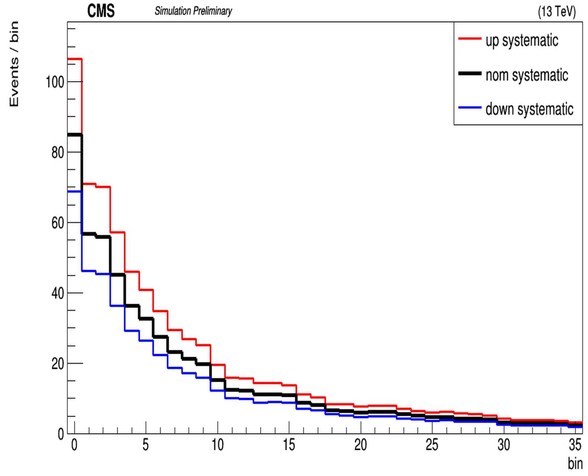



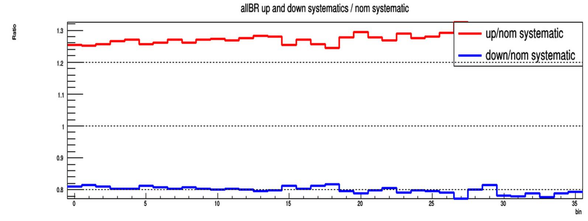
Linearized allBR MC in the AT1b for up/nom/down CMS_scale_allBR uncertainties (2016preAPV) (cut-based)



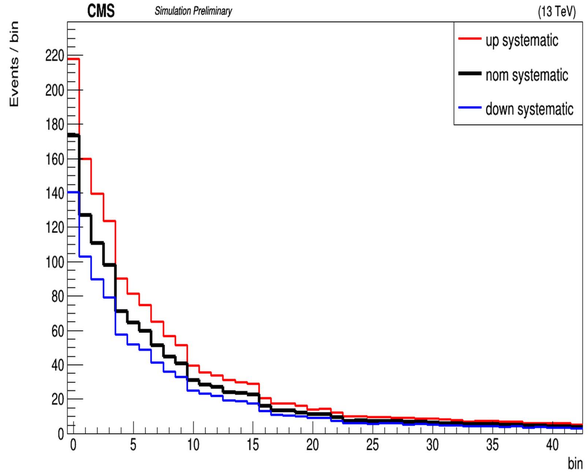



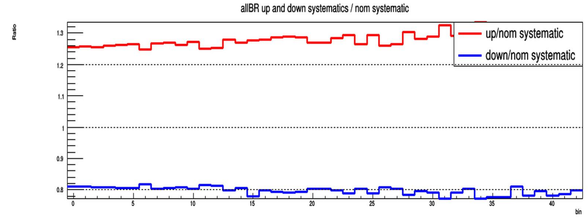

Linearized allBR MC in the AT1b for up/nom/down CMS_scale_allBR uncertainties (2016postAPV) (cut-based)



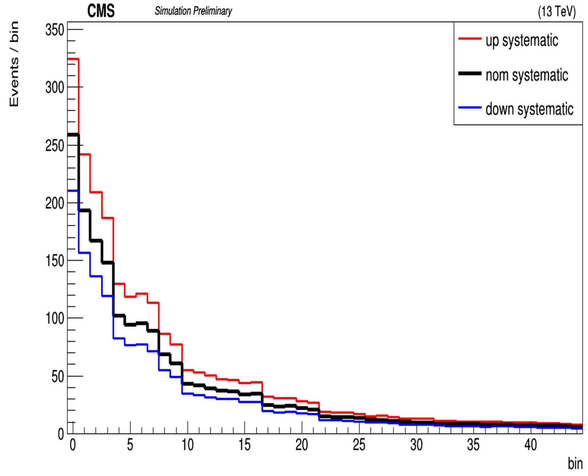



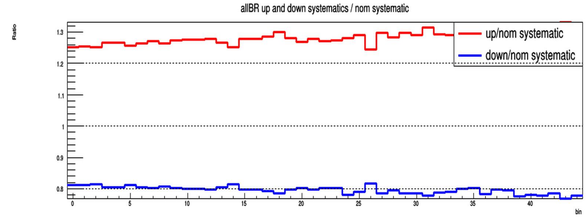

Linearized allBR MC in the AT1b for up/nom/down CMS_scale_allBR uncertainties (2017) (cut-based)



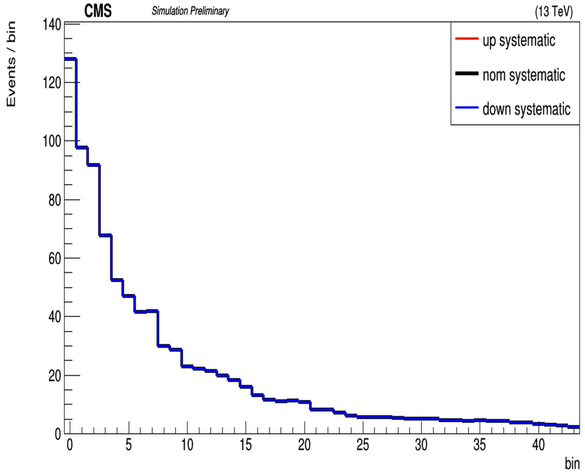



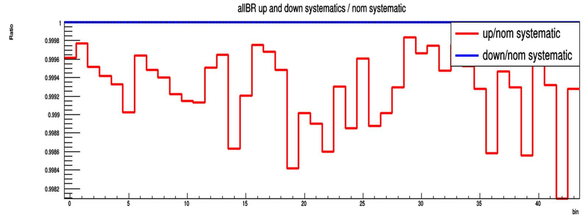

Linearized allBR MC in the AT1b for up/nom/down CMS_scale_allBR uncertainties (2018) (cut-based)



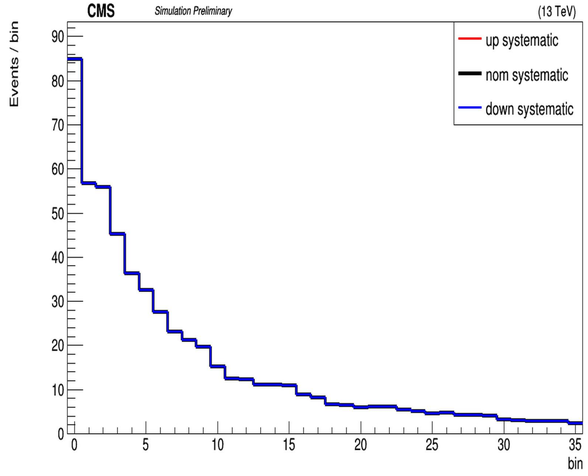



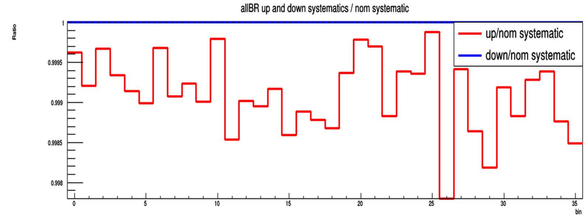

Linearized allBR MC in the AT1b for up/nom/down CMS_topPt uncertainties (2016preAPV) (cut-based)



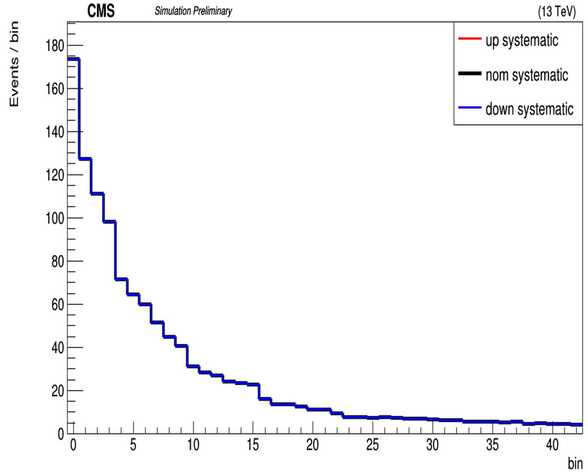



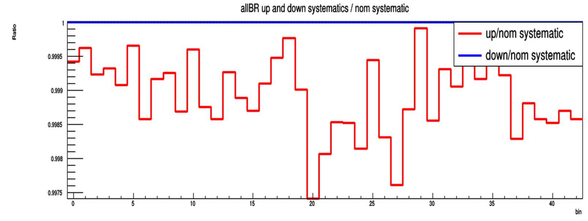

Linearized allBR MC in the AT1b for up/nom/down CMS_topPt uncertainties (2016postAPV) (cut-based)



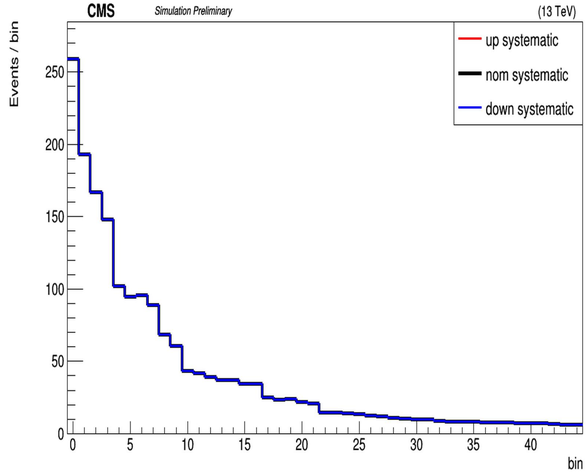



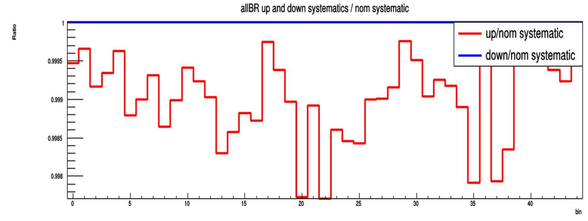

Linearized allBR MC in the AT1b for up/nom/down CMS_topPt uncertainties (2017) (cut-based)

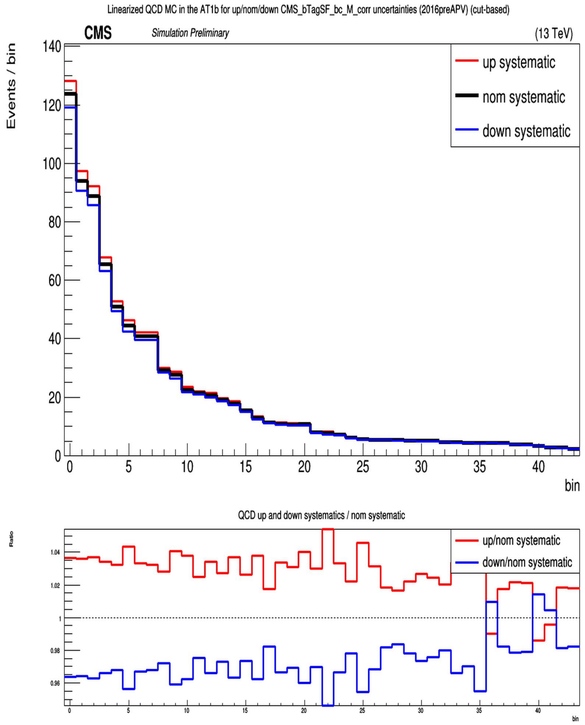


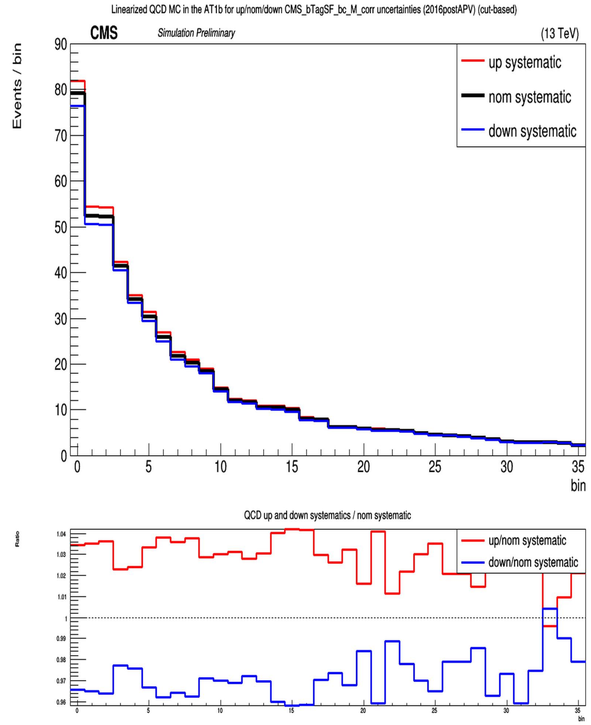



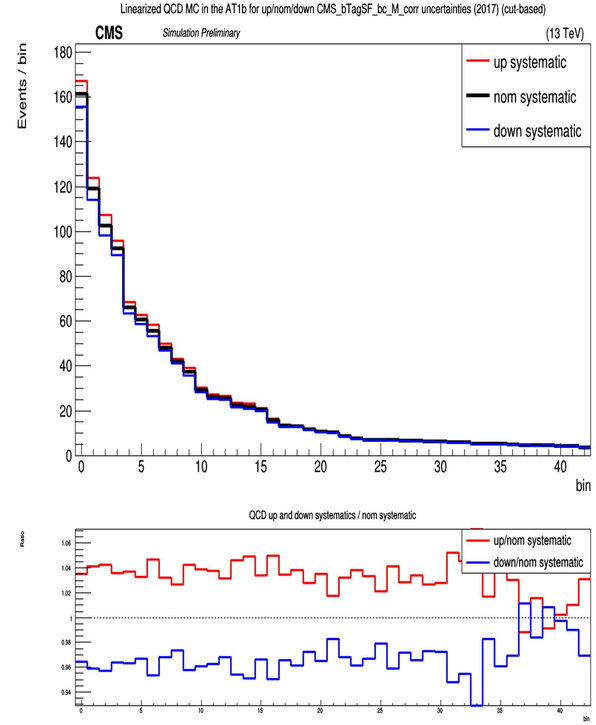

Linearized allBR MC in the AT1b for up/nom/down CMS_topPt uncertainties (2018) (cut-based)

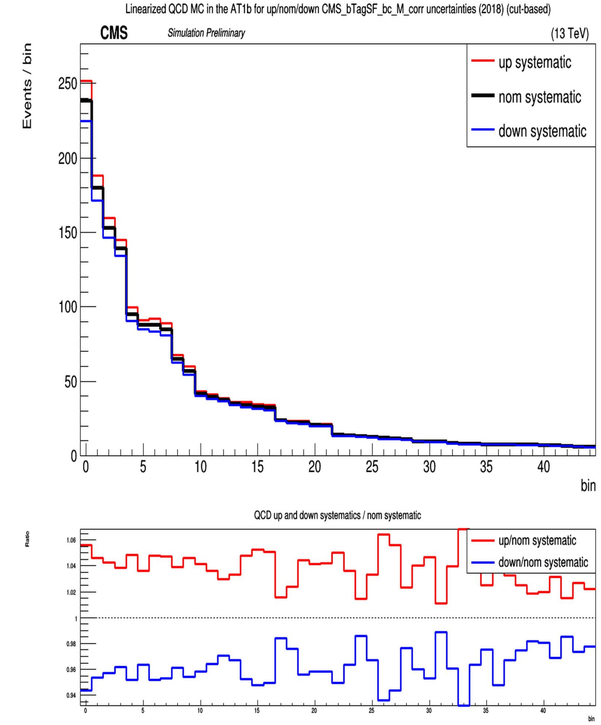


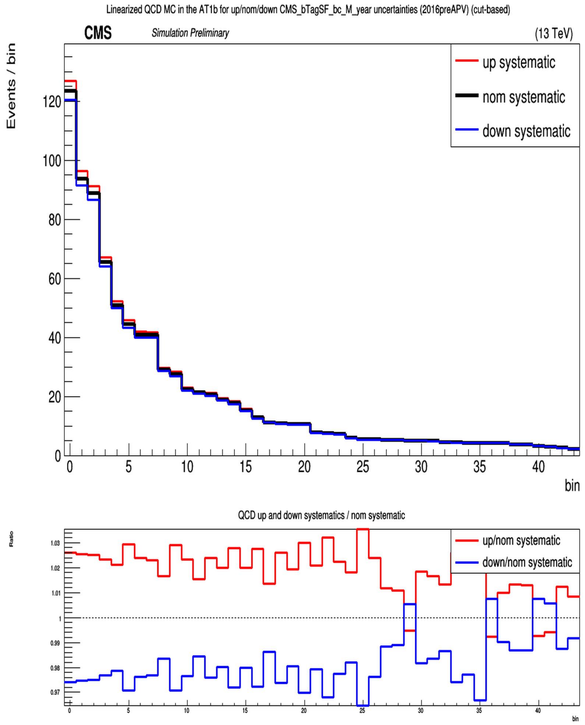



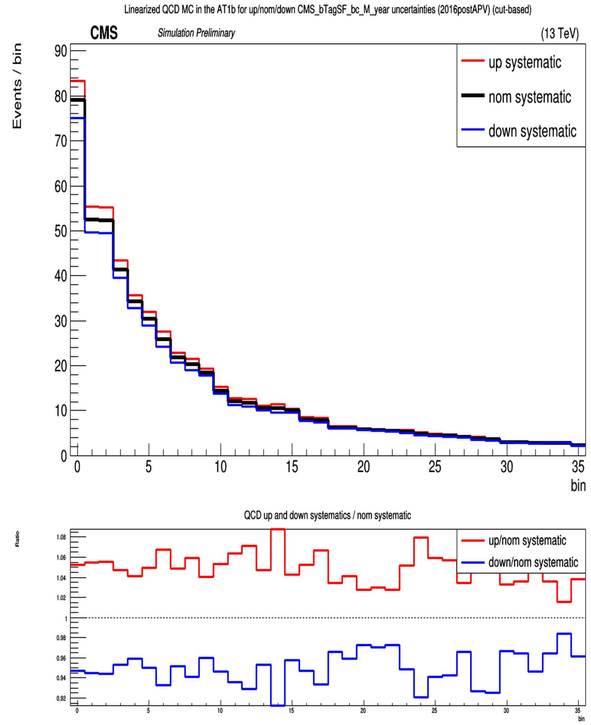

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_corr uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

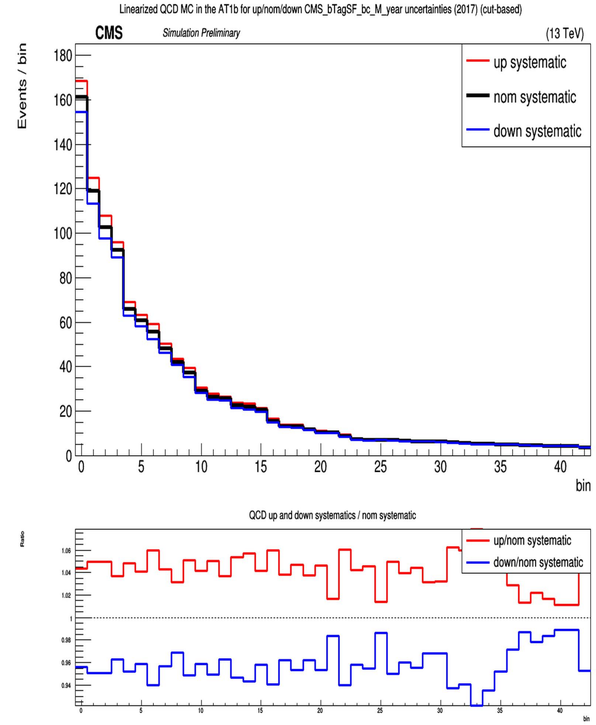

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_corr uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

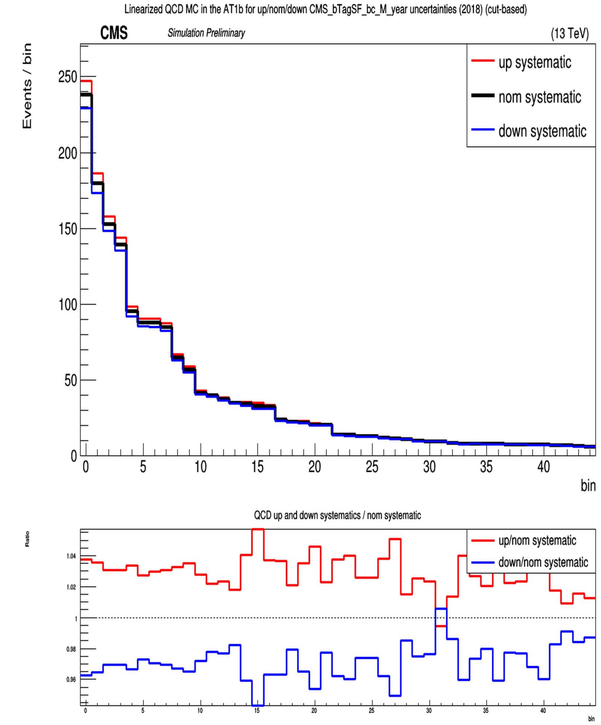

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_corr uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_corr uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

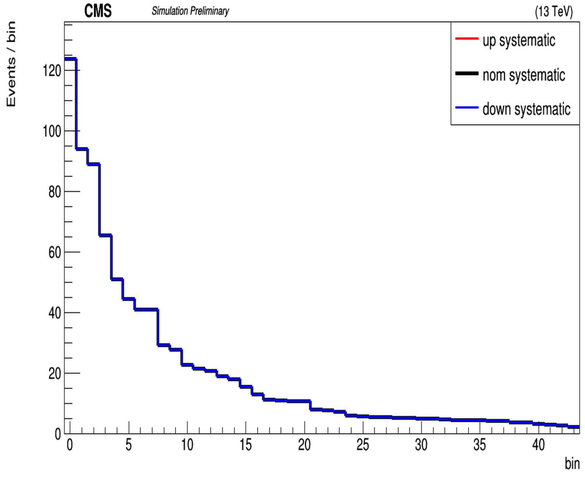

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

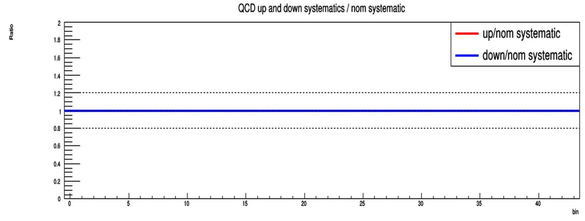

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

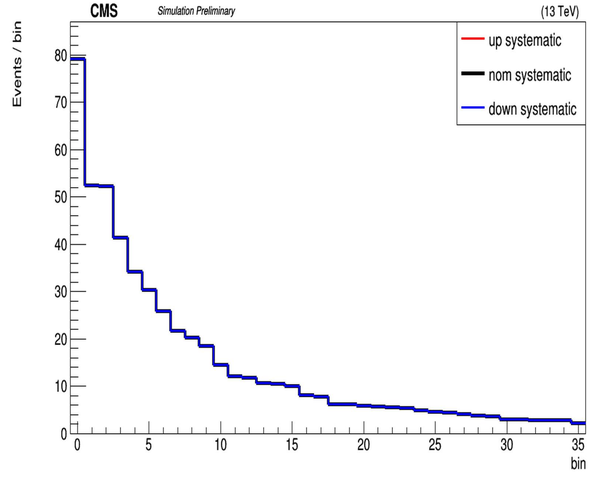

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

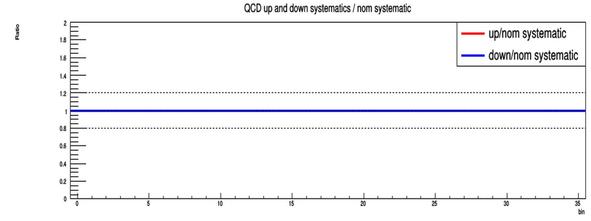
Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_corr uncertainties (2016preAPV) (cut-based)



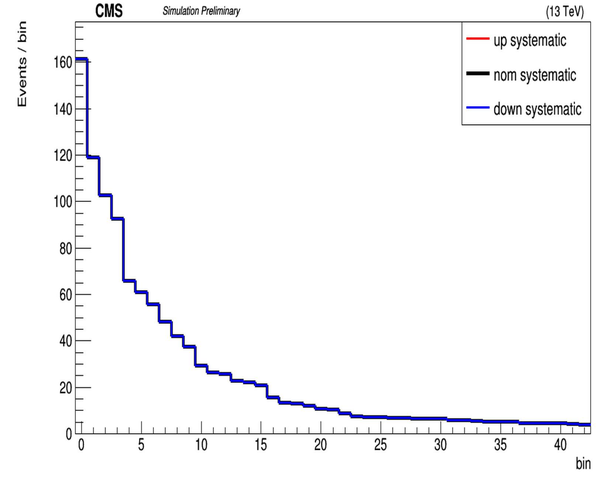



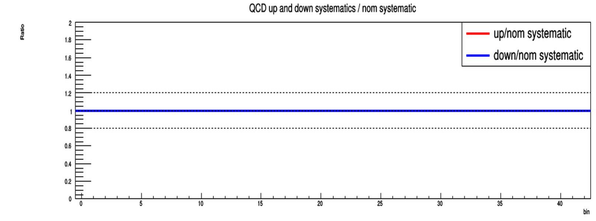

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_corr uncertainties (2016postAPV) (cut-based)



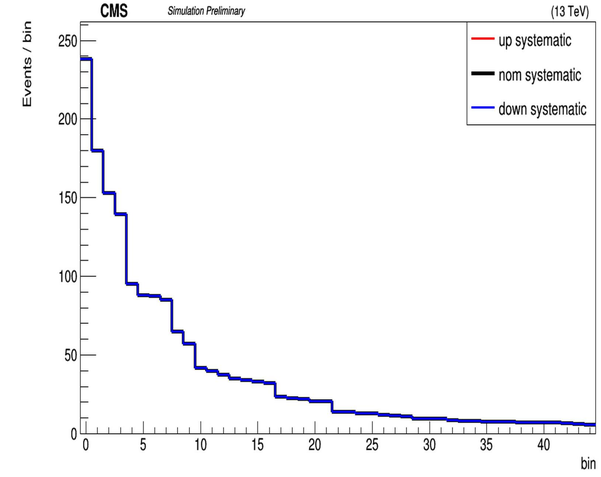



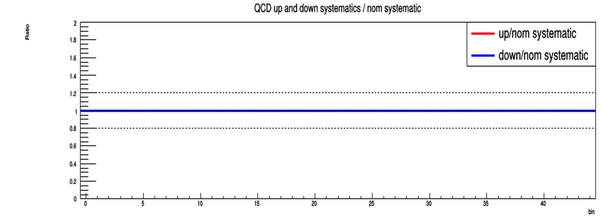

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_corr uncertainties (2017) (cut-based)



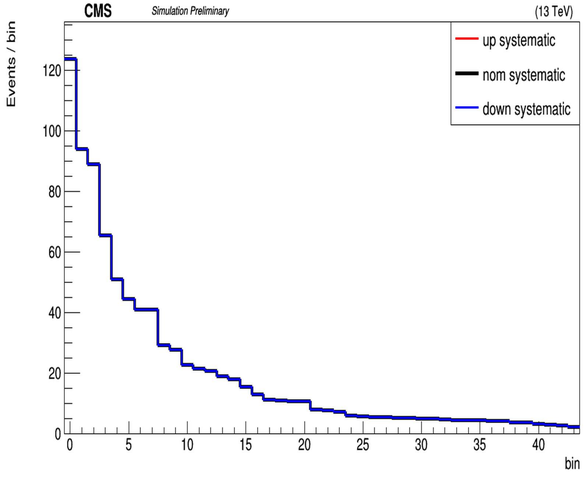



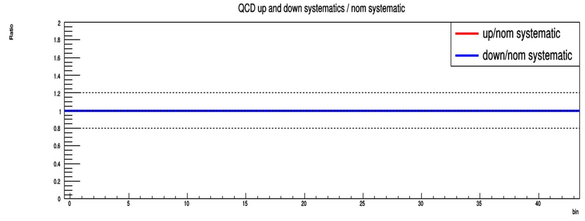

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_corr uncertainties (2018) (cut-based)



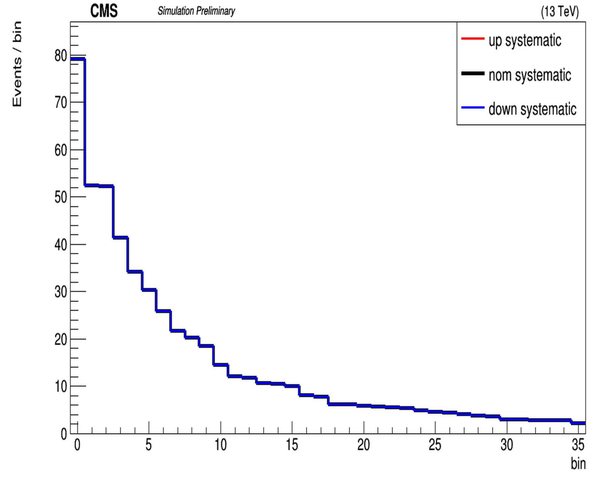



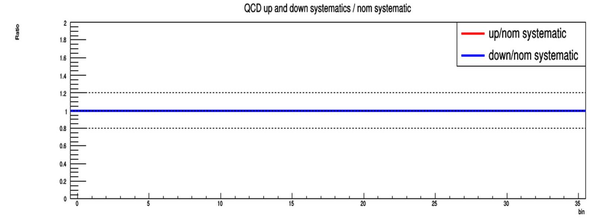

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_year uncertainties (2016preAPV) (cut-based)



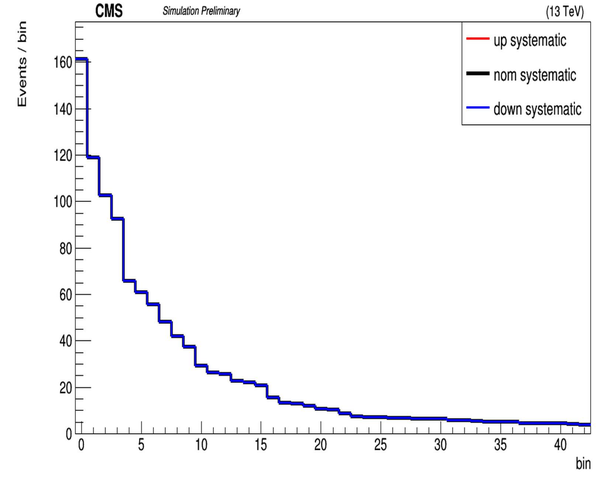



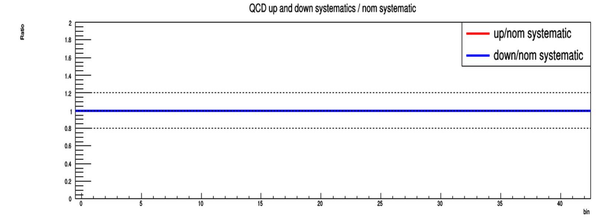

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_year uncertainties (2016postAPV) (cut-based)



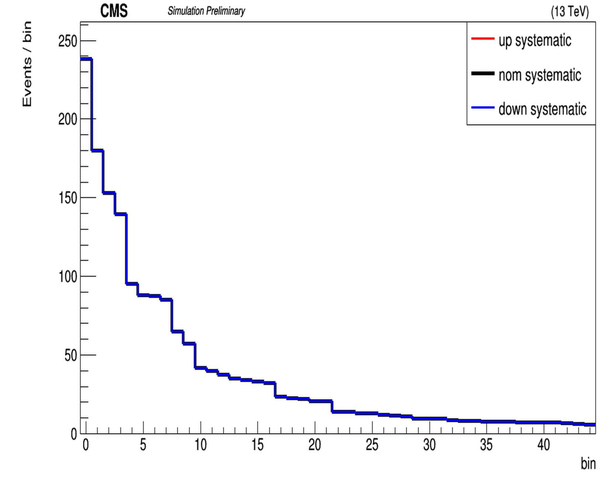



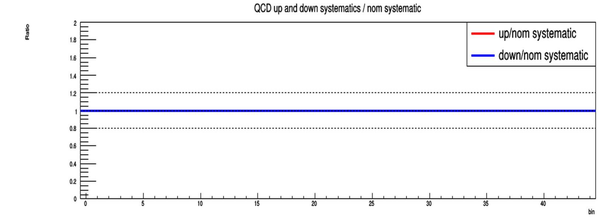

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_year uncertainties (2017) (cut-based)

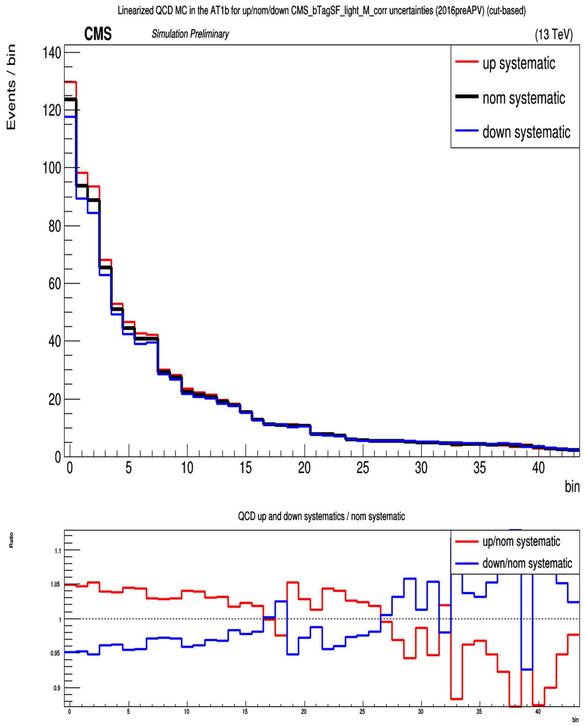


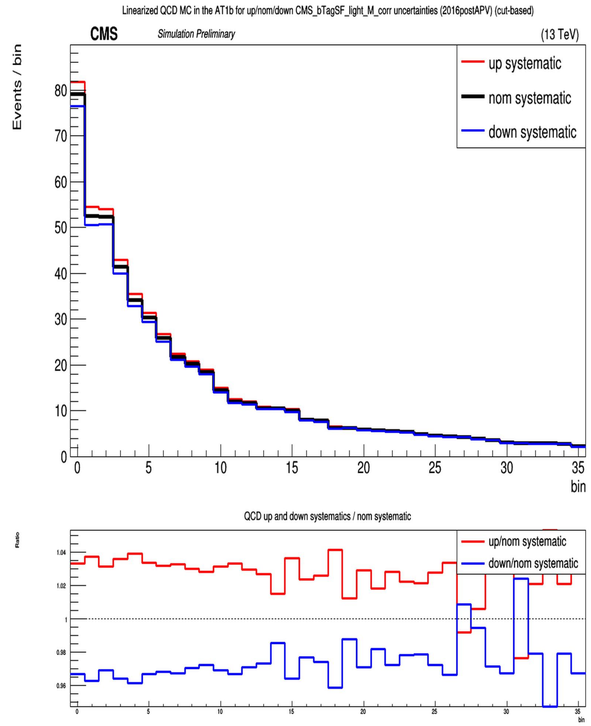



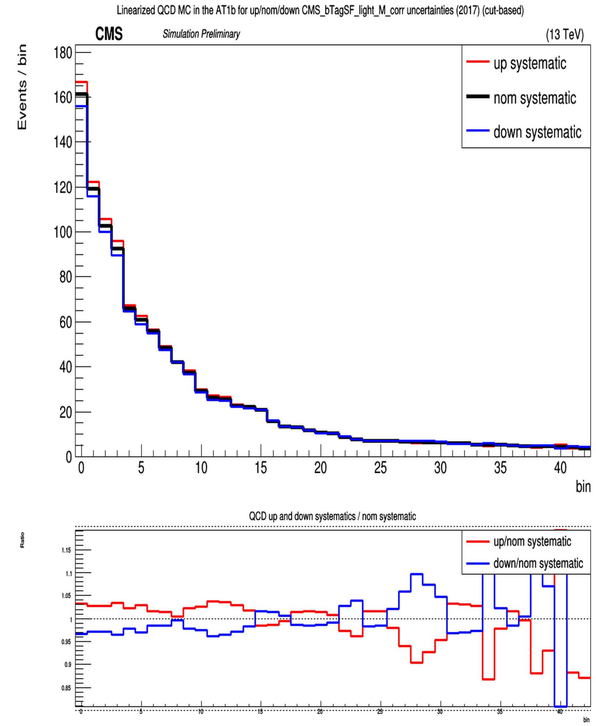

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_year uncertainties (2018) (cut-based)

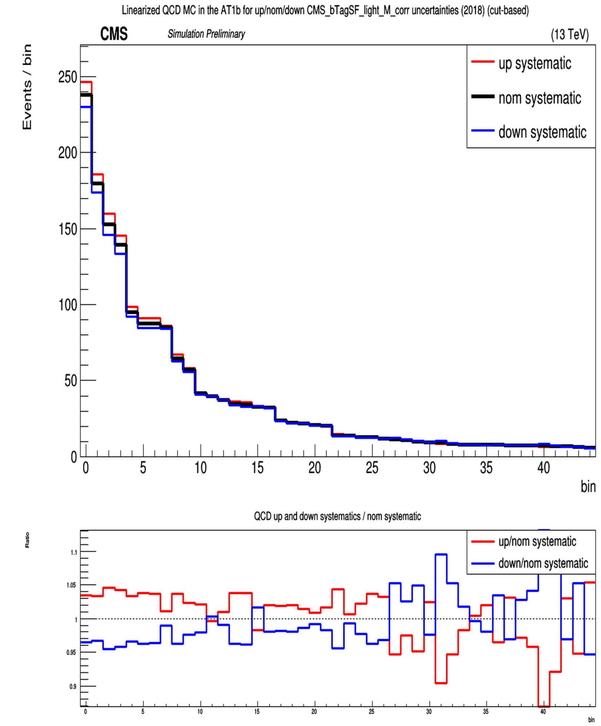


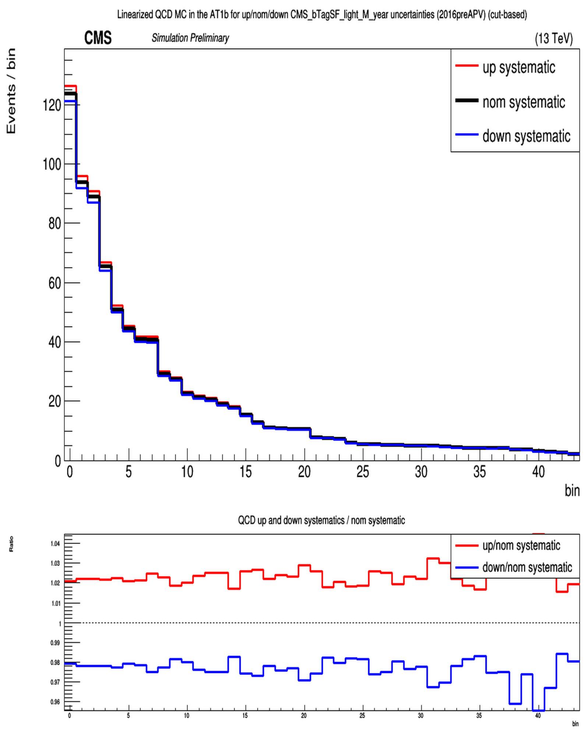



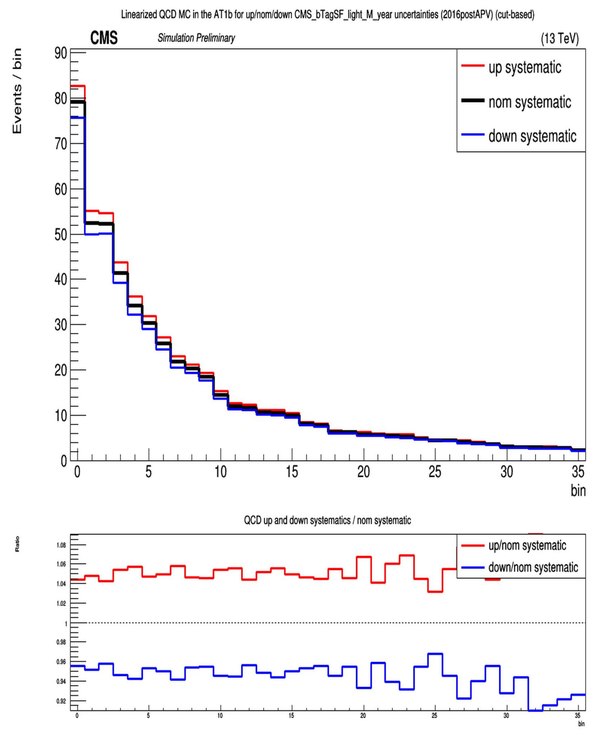

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_light_M_corr uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

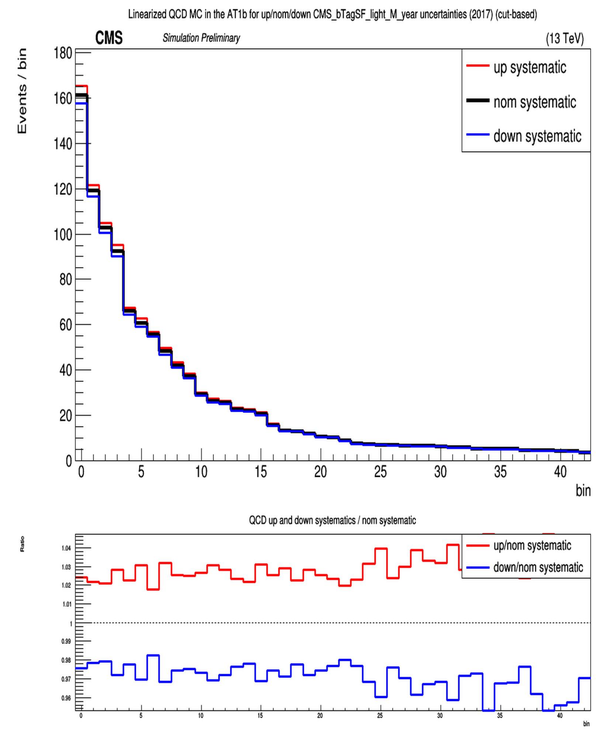

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_light_M_corr uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

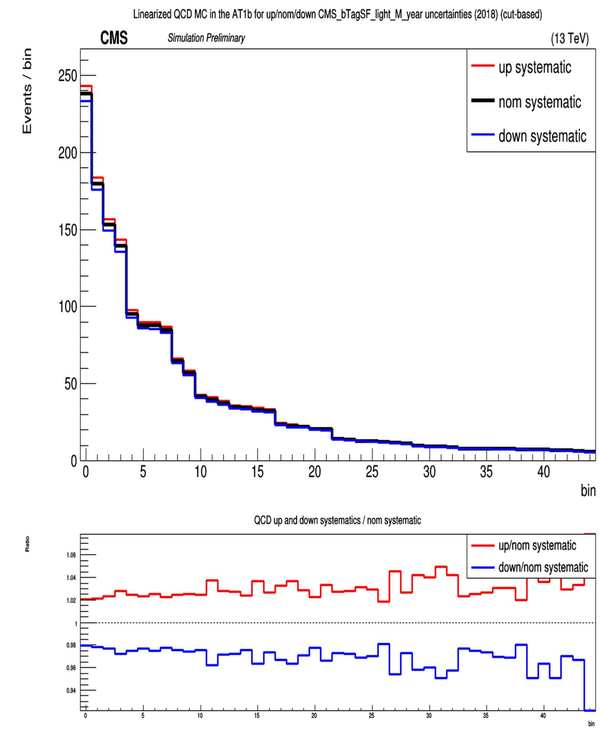

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_light_M_corr uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_light_M_corr uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

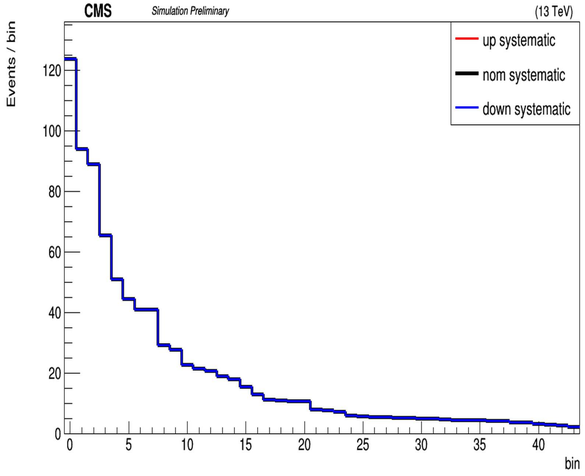

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_light_M_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_light_M_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

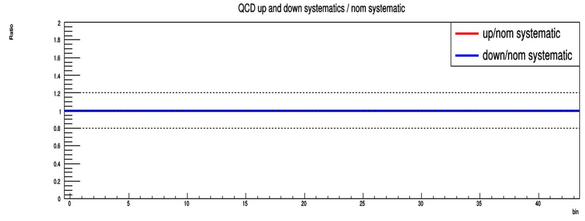

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_light_M_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_light_M_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

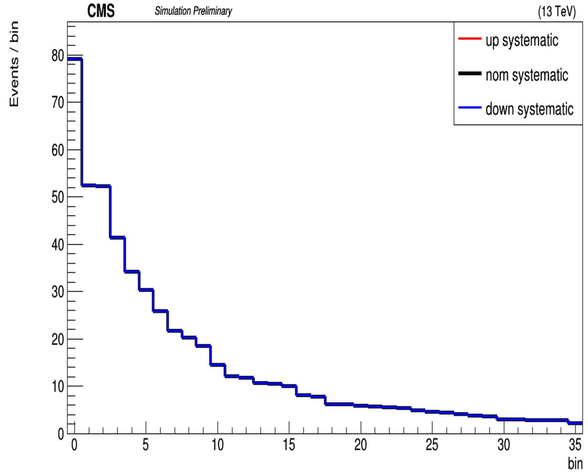
Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_light_T_corr uncertainties (2016preAPV) (cut-based)



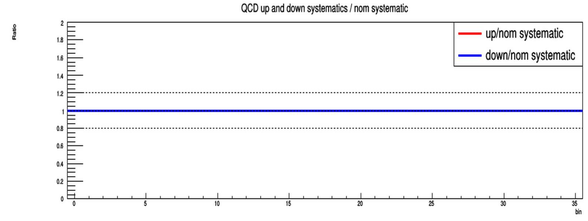

QCD up and down systematics / nom systematic



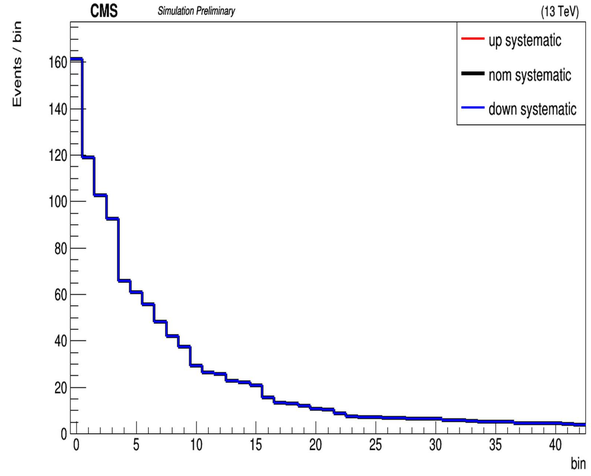

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_light_T_corr uncertainties (2016postAPV) (cut-based)



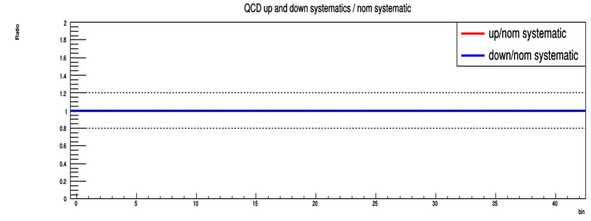

QCD up and down systematics / nom systematic



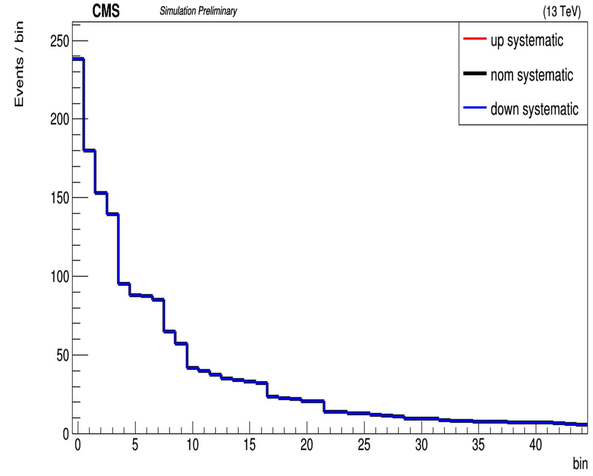

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_light_T_corr uncertainties (2017) (cut-based)



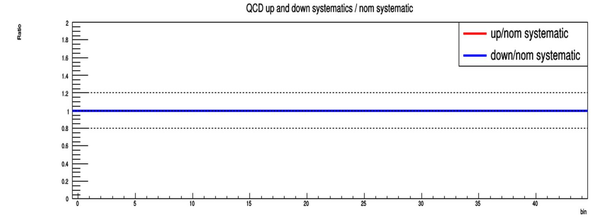

QCD up and down systematics / nom systematic



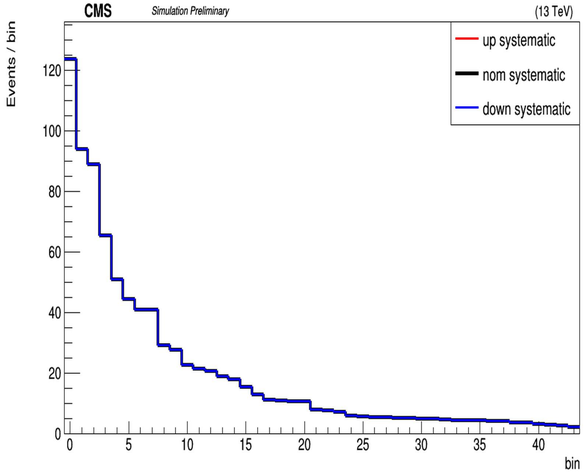

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_light_T_corr uncertainties (2018) (cut-based)



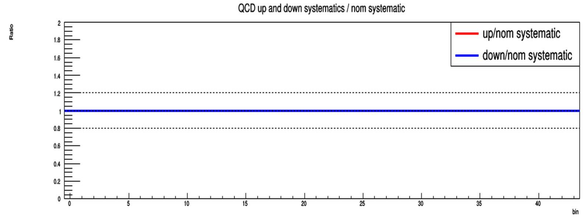

QCD up and down systematics / nom systematic



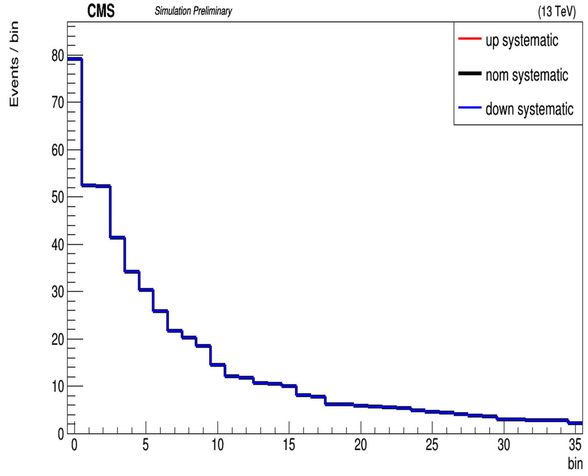

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_light_T_year uncertainties (2016preAPV) (cut-based)



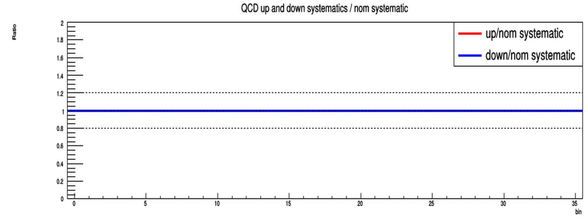

QCD up and down systematics / nom systematic



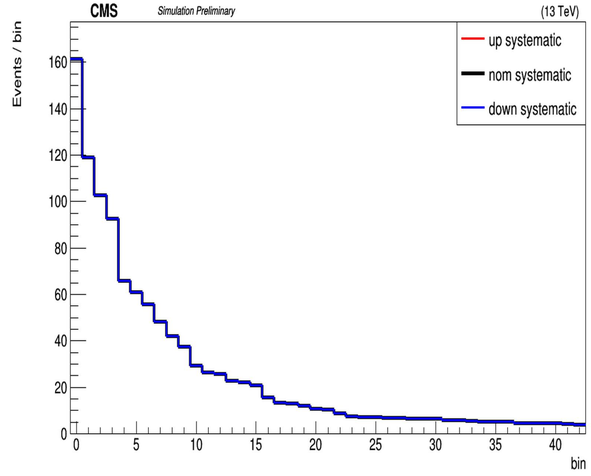

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_light_T_year uncertainties (2016postAPV) (cut-based)



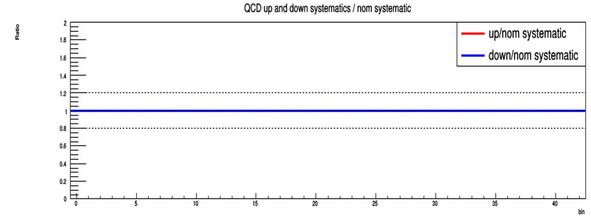

QCD up and down systematics / nom systematic



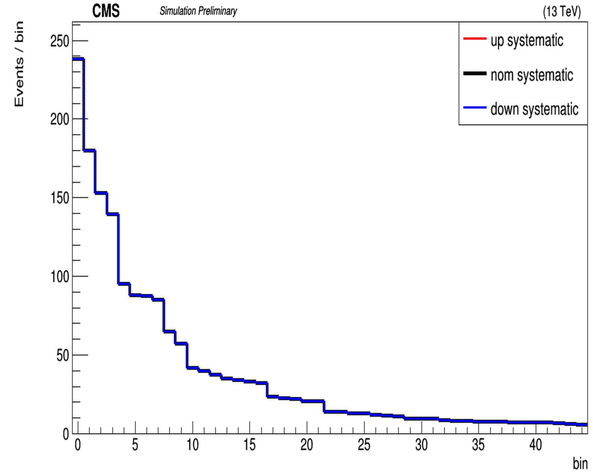

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_light_T_year uncertainties (2017) (cut-based)



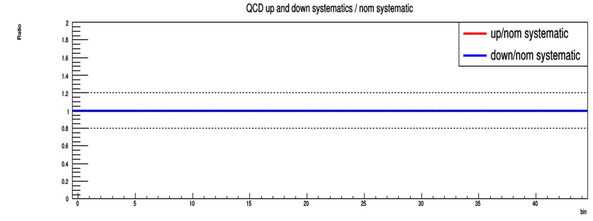

QCD up and down systematics / nom systematic

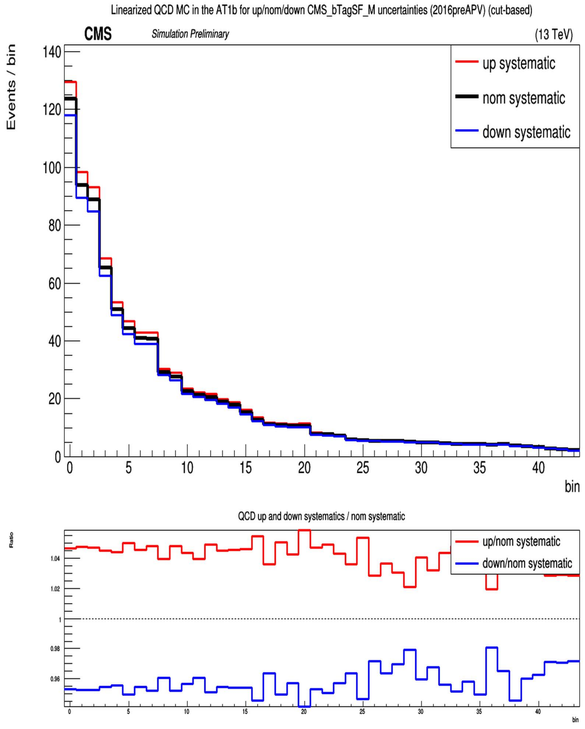


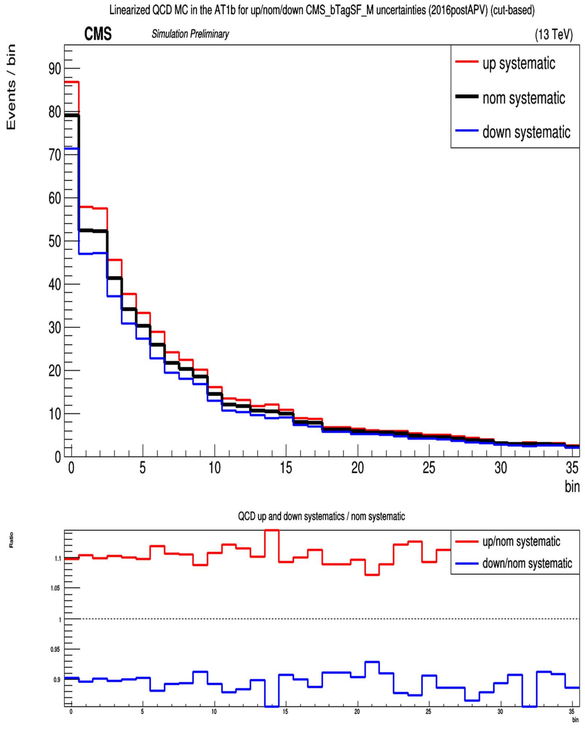

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_light_T_year uncertainties (2018) (cut-based)

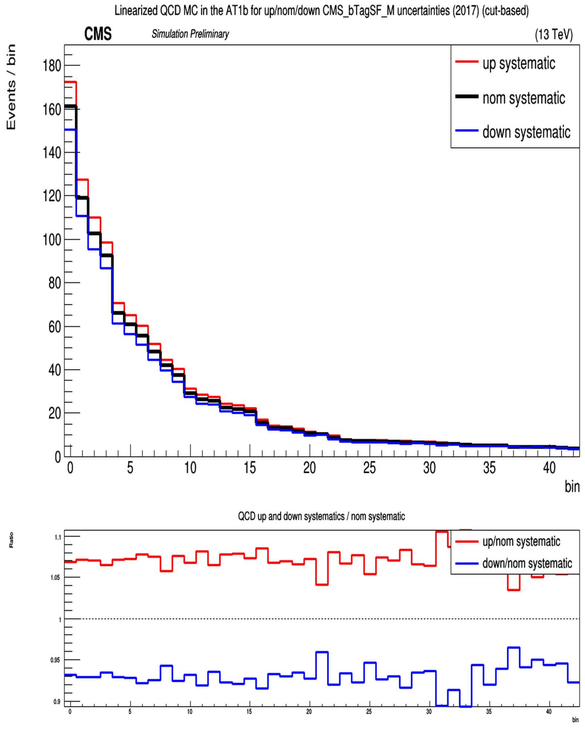


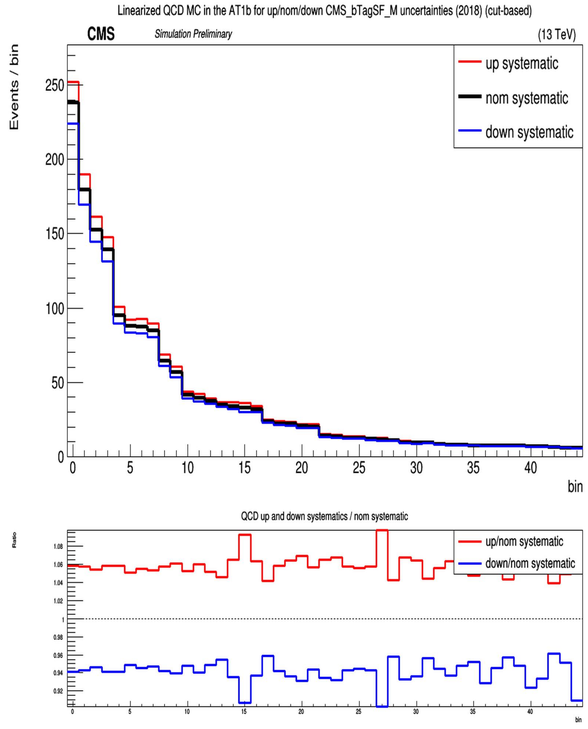

QCD up and down systematics / nom systematic

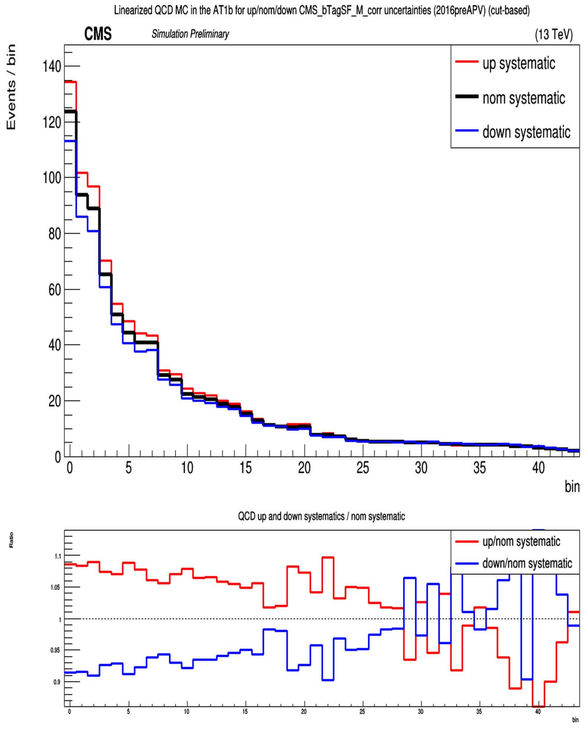


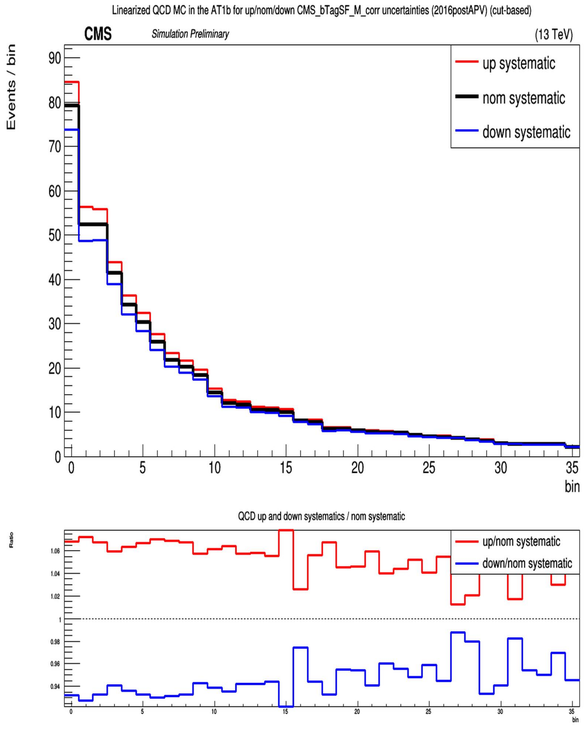

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_M uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

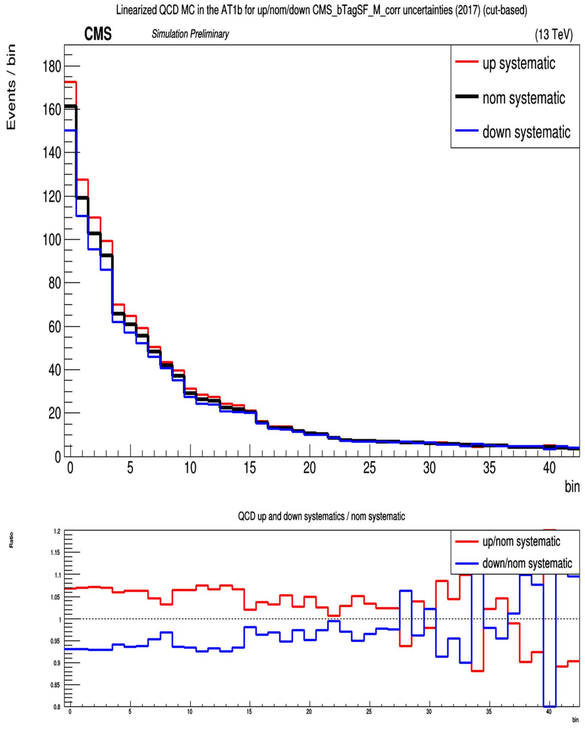

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_M uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

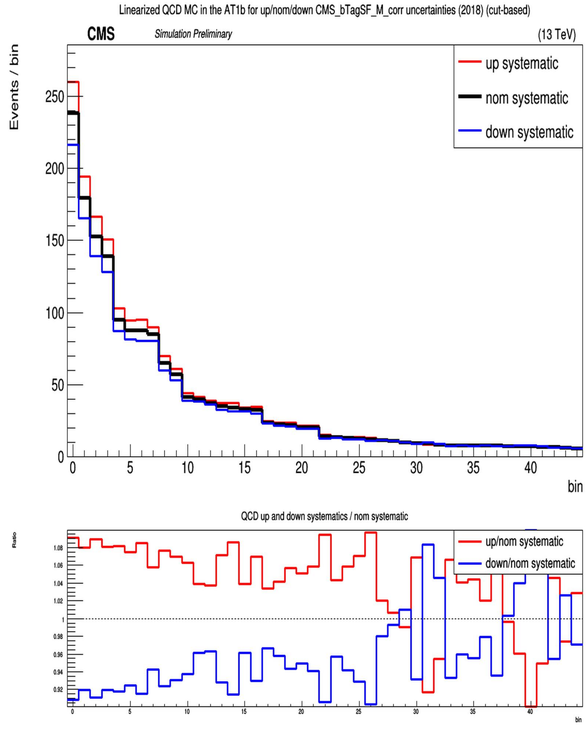

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_M uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_M uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

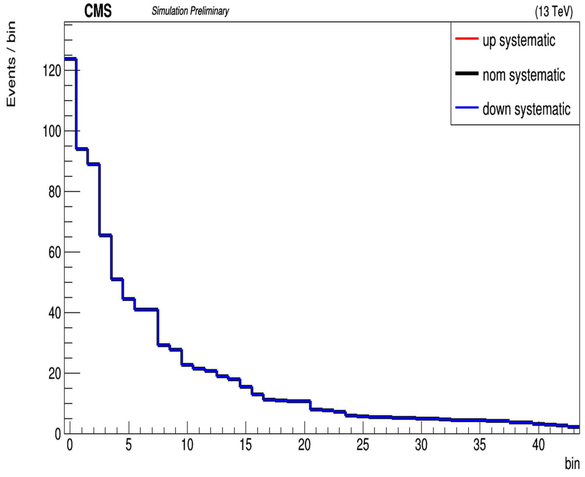

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_M_corr uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

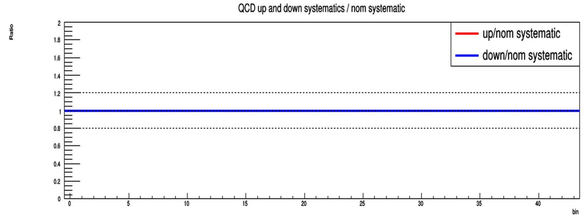

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_M_corr uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_M_corr uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

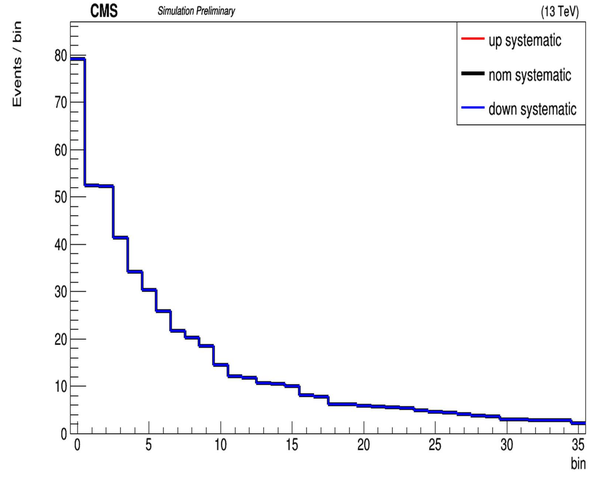

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_M_corr uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

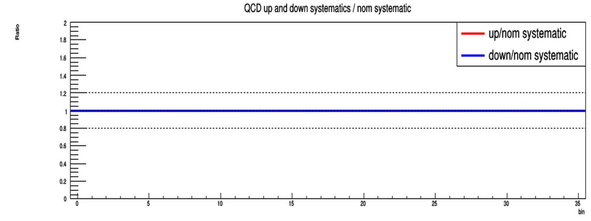
Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_T uncertainties (2016preAPV) (cut-based)



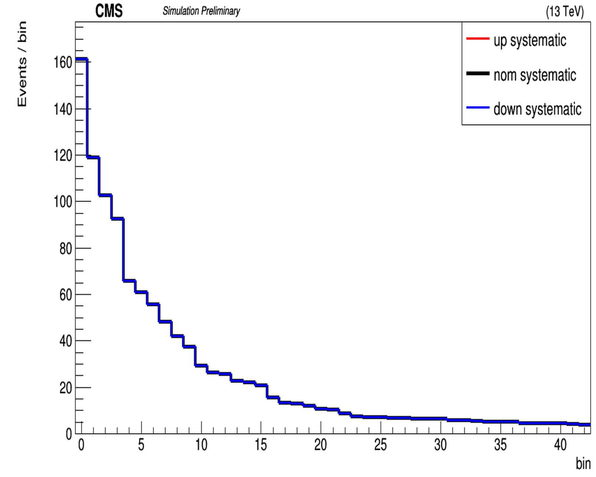



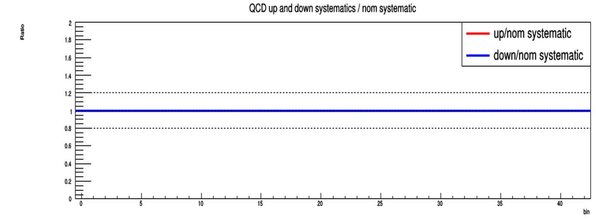

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_T uncertainties (2016postAPV) (cut-based)



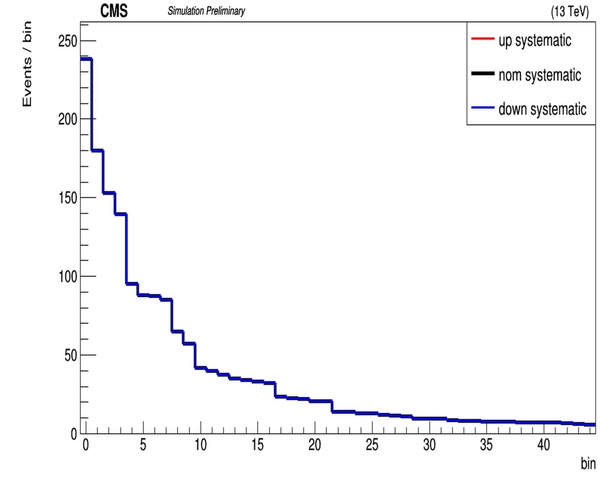



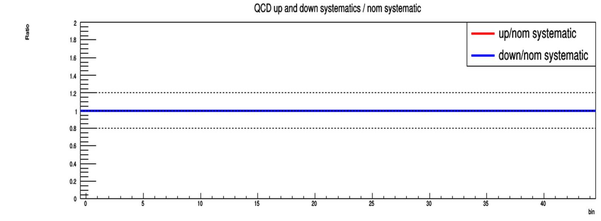

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_T uncertainties (2017) (cut-based)



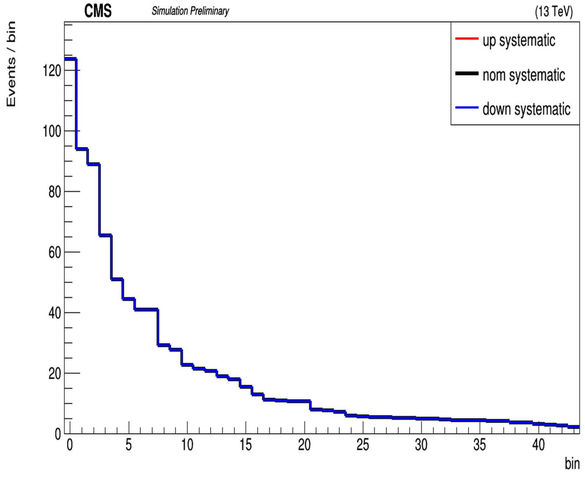



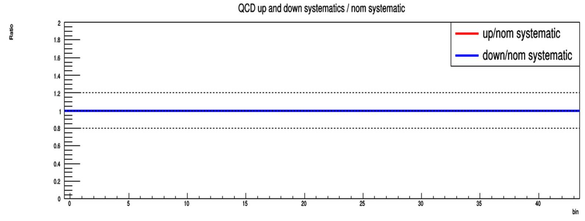

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_T uncertainties (2018) (cut-based)



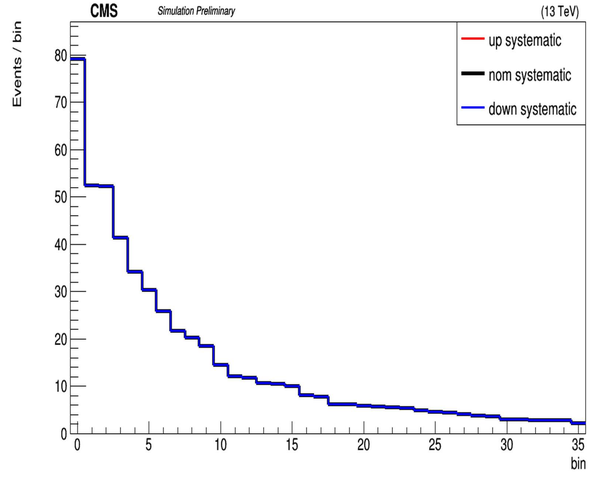



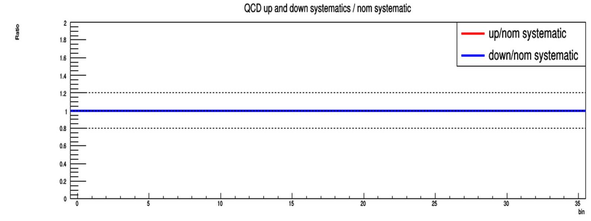

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_T_corr uncertainties (2016preAPV) (cut-based)



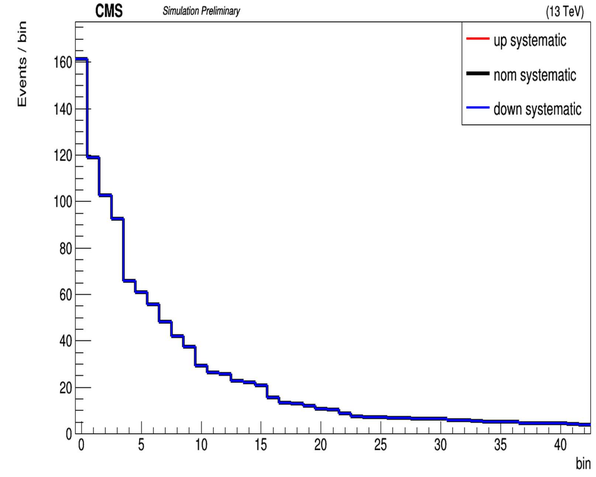



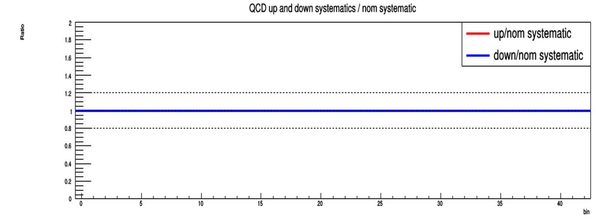

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_T_corr uncertainties (2016postAPV) (cut-based)



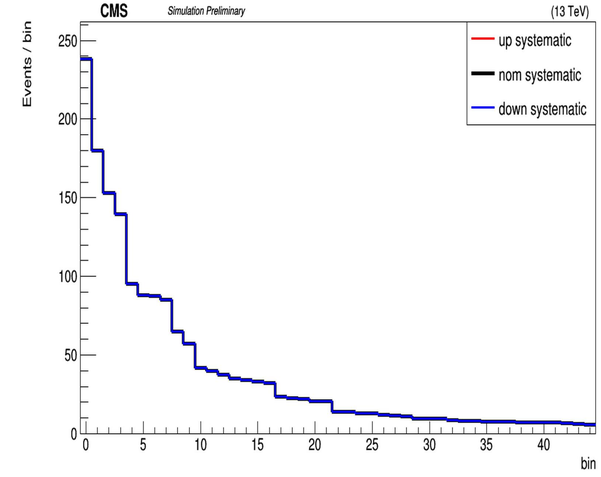



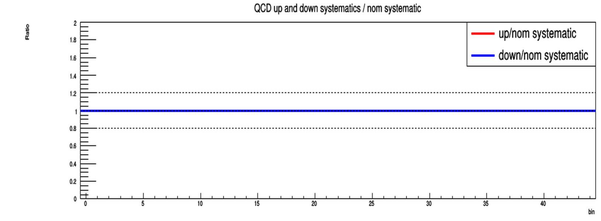

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_T_corr uncertainties (2017) (cut-based)

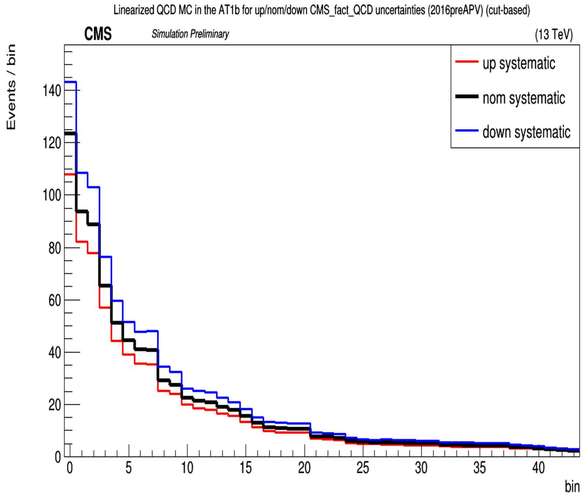


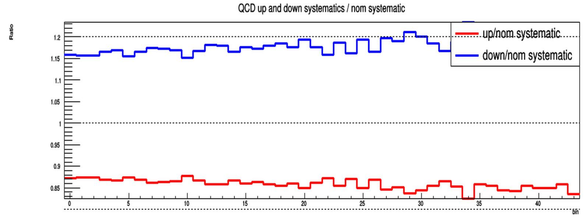



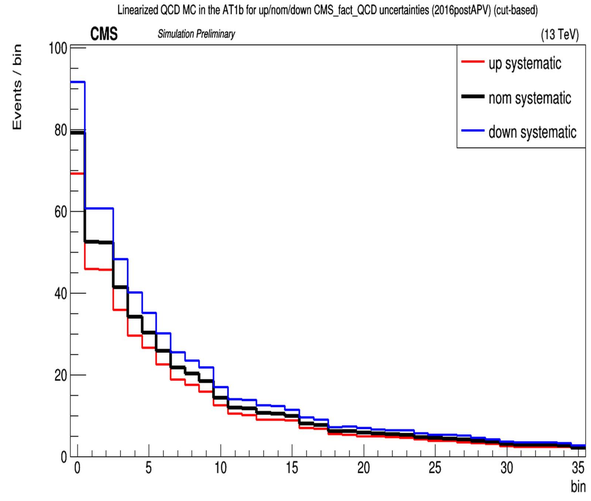

Linearized QCD MC in the AT1b for up/nom/down CMS_bTagSF_T_corr uncertainties (2018) (cut-based)

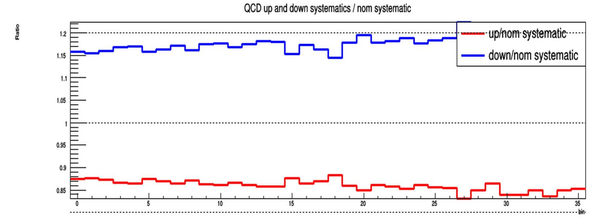


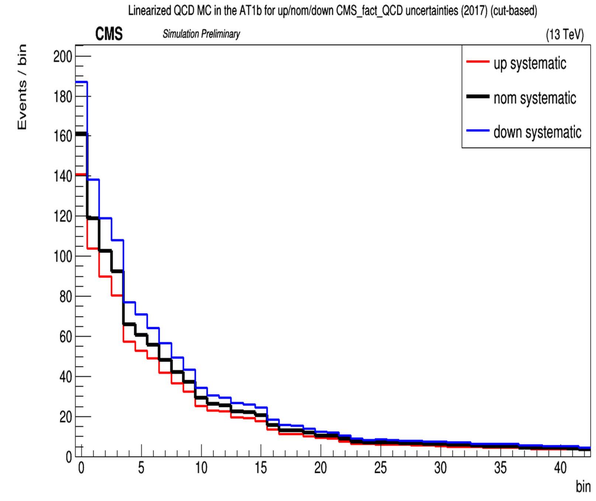



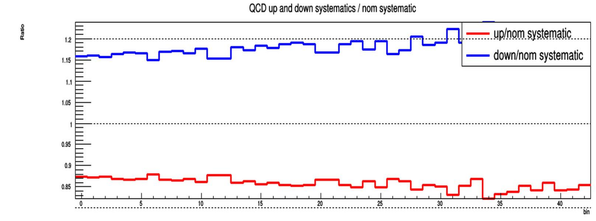

Linearized QCD MC in the AT1b for up/nom/down CMS_fact_QCD uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

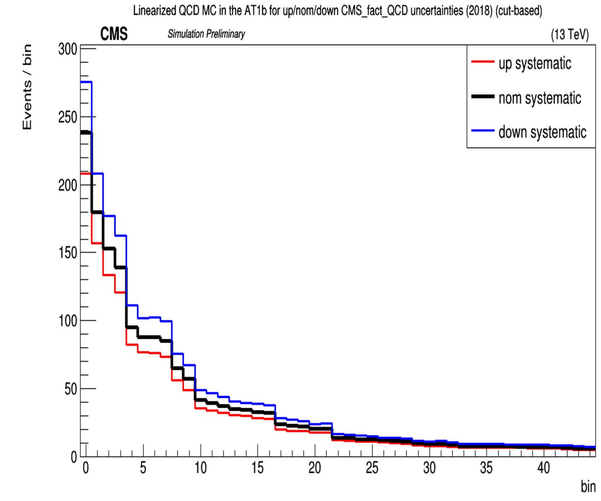

QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

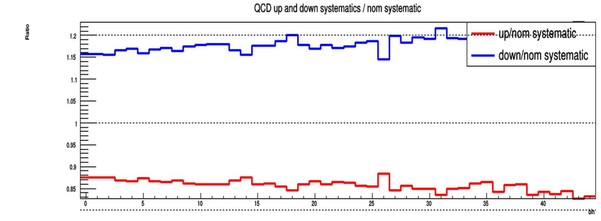

Linearized QCD MC in the AT1b for up/nom/down CMS_fact_QCD uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

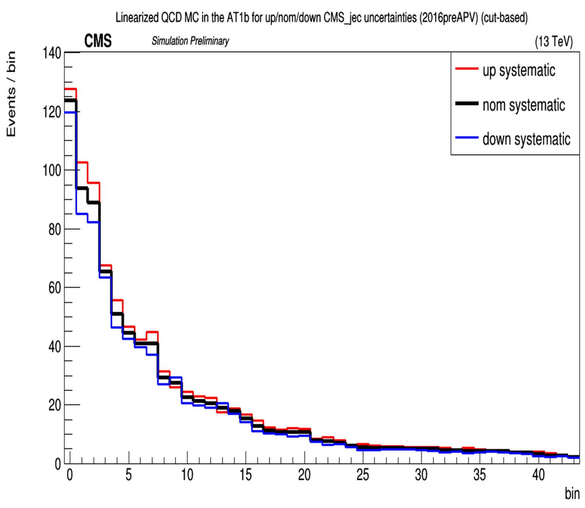

QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

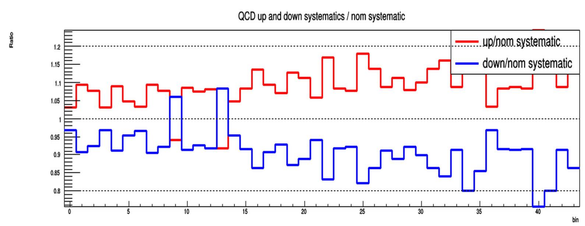

Linearized QCD MC in the AT1b for up/nom/down CMS_fact_QCD uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

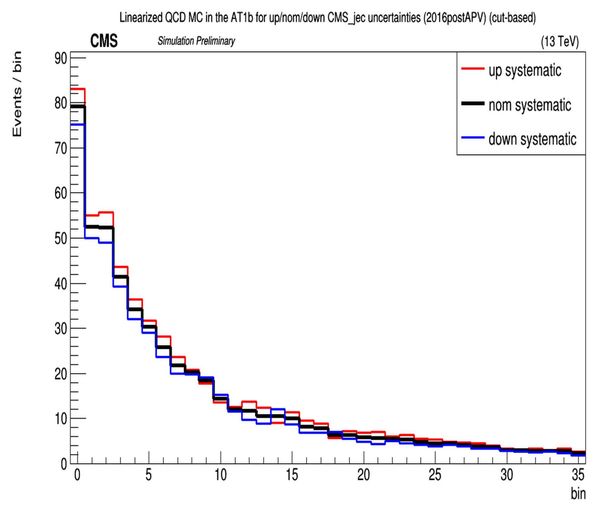

QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

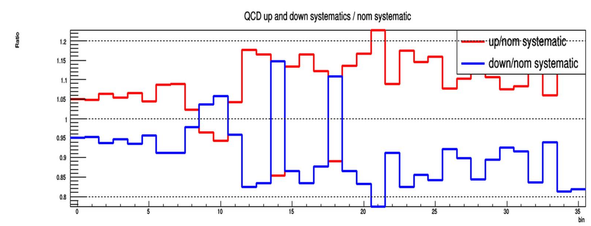

Linearized QCD MC in the AT1b for up/nom/down CMS_fact_QCD uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

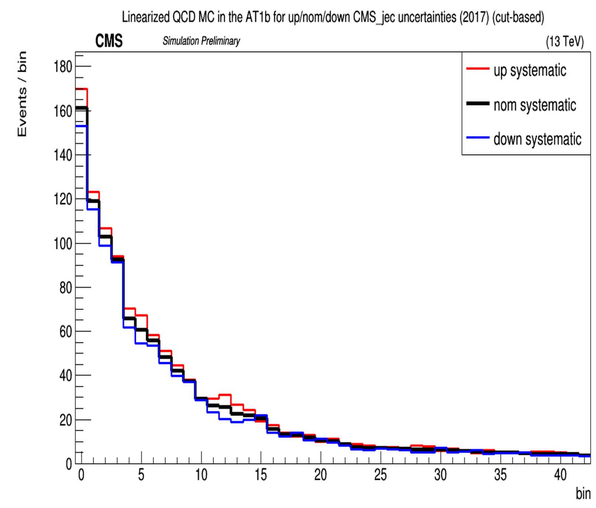

QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

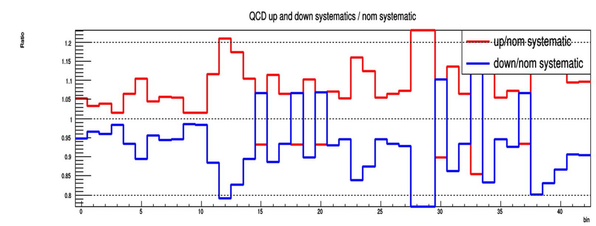

Linearized QCD MC in the AT1b for up/nom/down CMS_jec uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

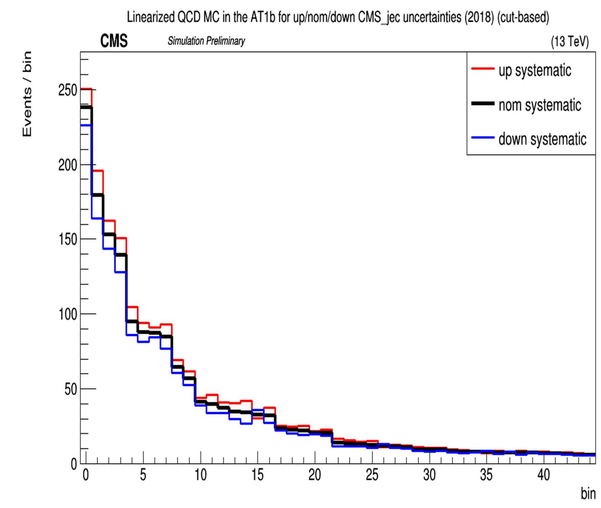

QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

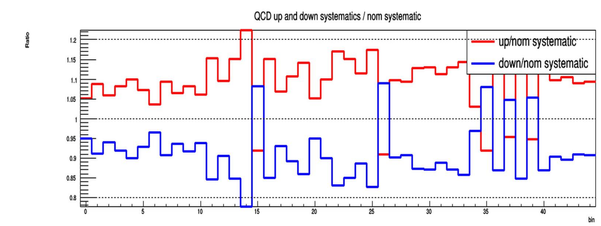

Linearized QCD MC in the AT1b for up/nom/down CMS_jec uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

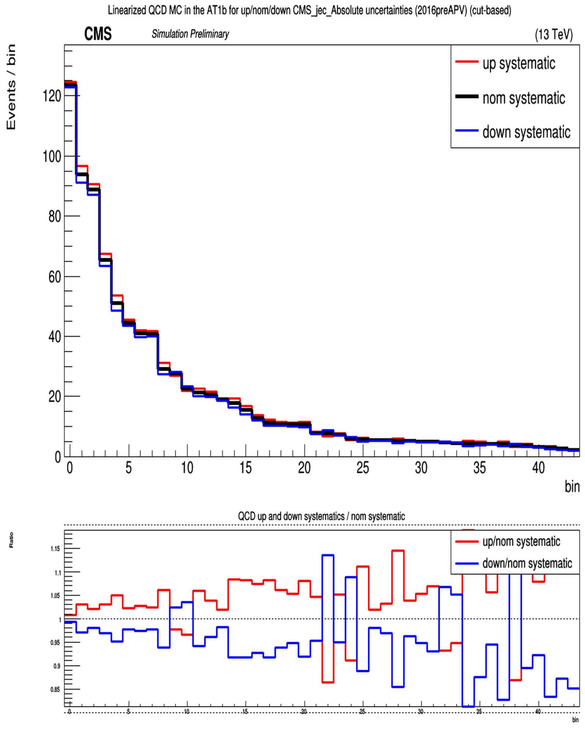

QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

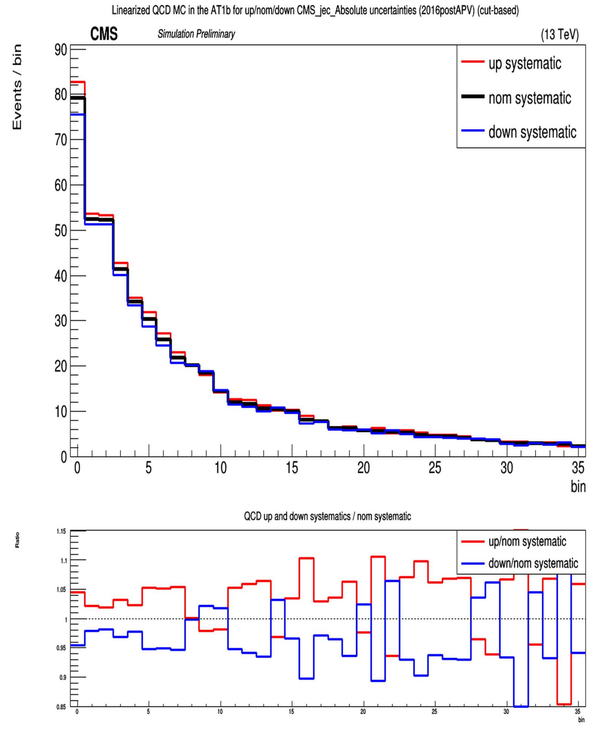

Linearized QCD MC in the AT1b for up/nom/down CMS_jec uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

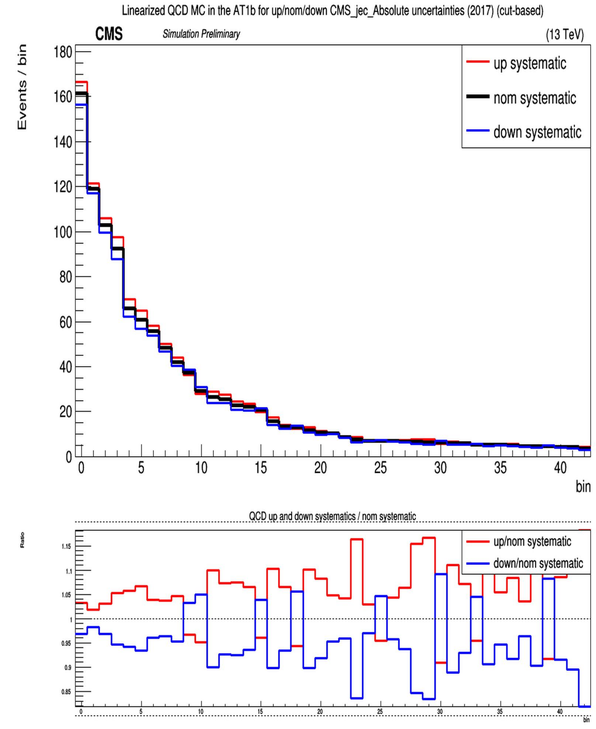

QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

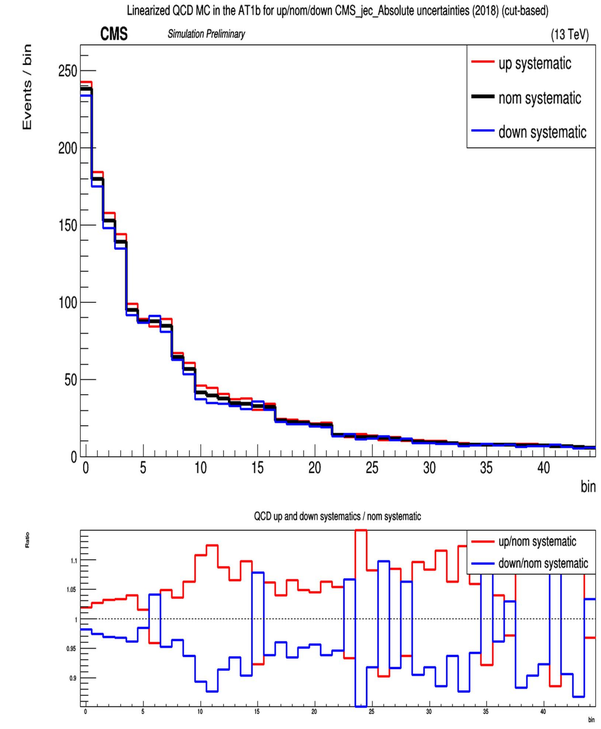

Linearized QCD MC in the AT1b for up/nom/down CMS_jec uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

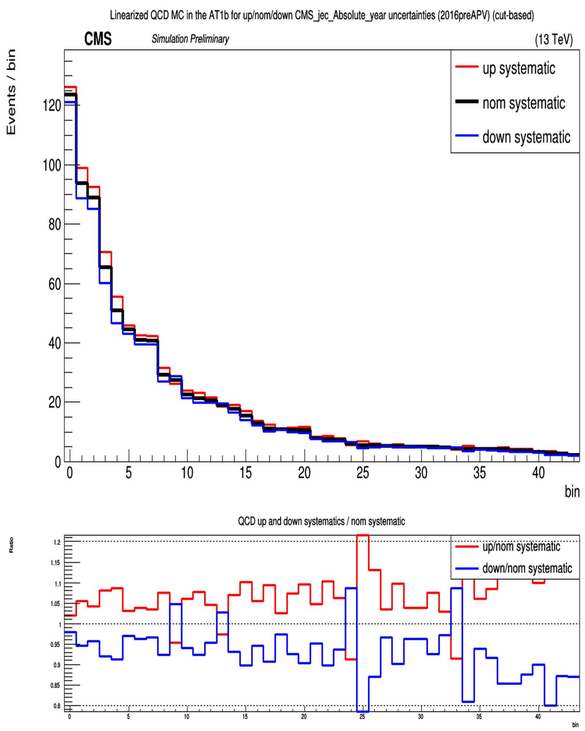

QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

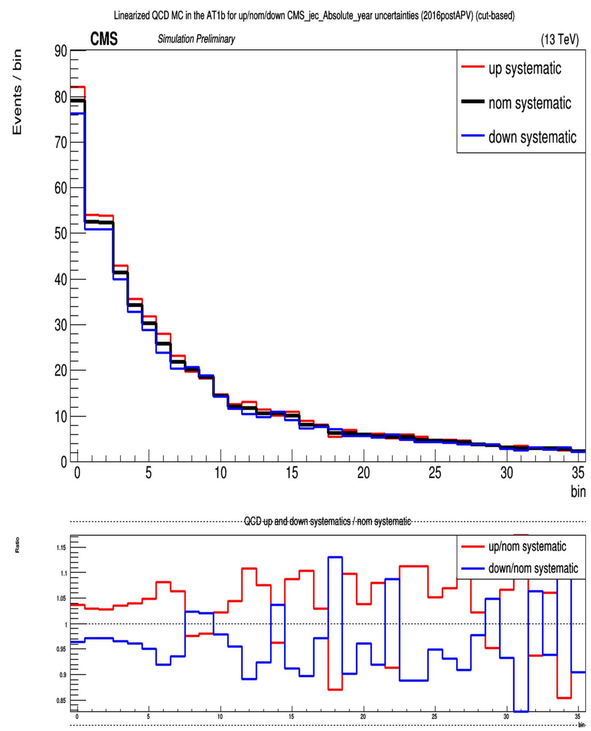

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_Absolute uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

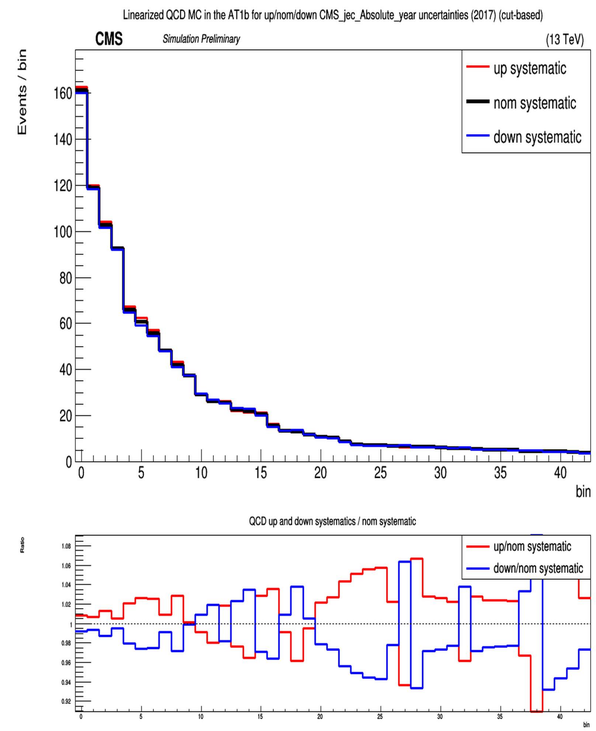

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_Absolute uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

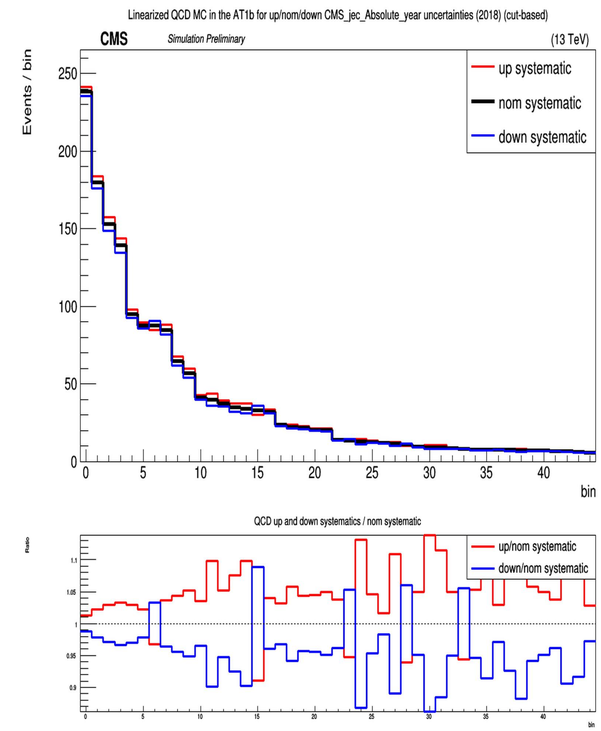

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_Absolute uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

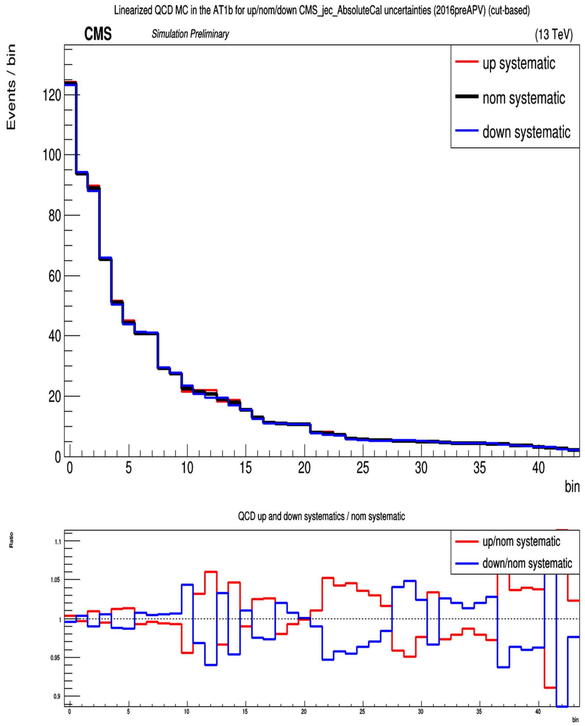

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_Absolute uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

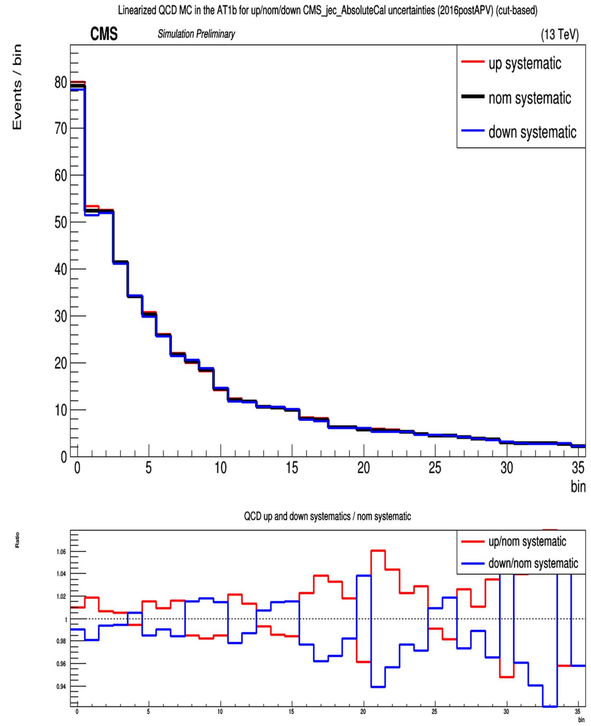

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_Absolute_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

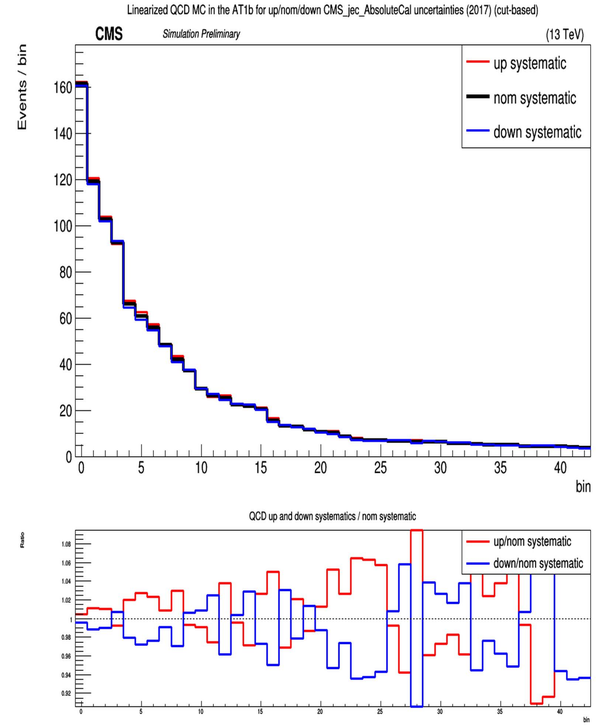

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_Absolute_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

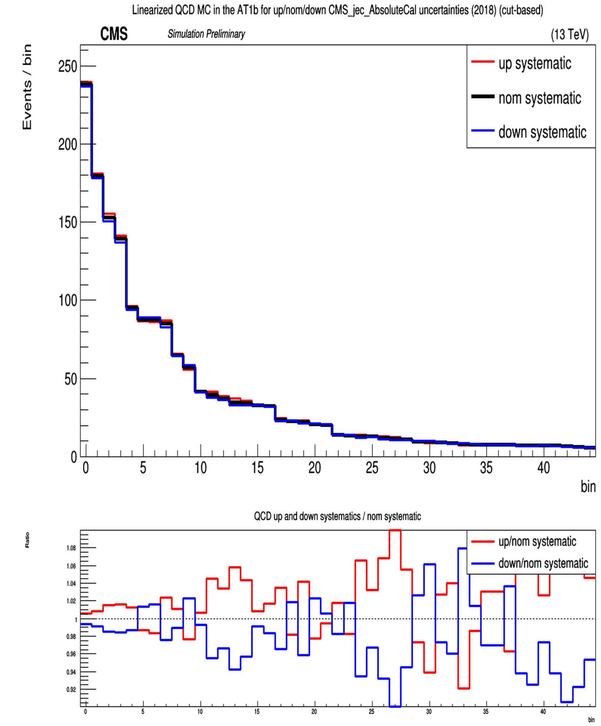

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_Absolute_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

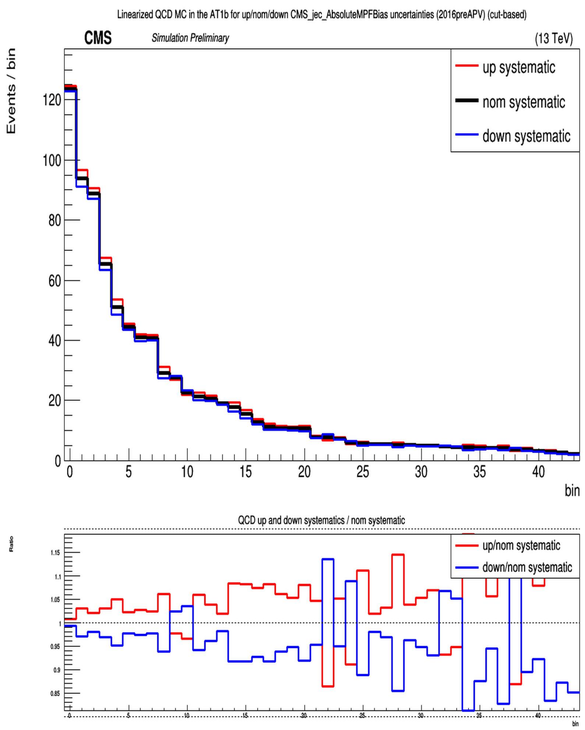

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_Absolute_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

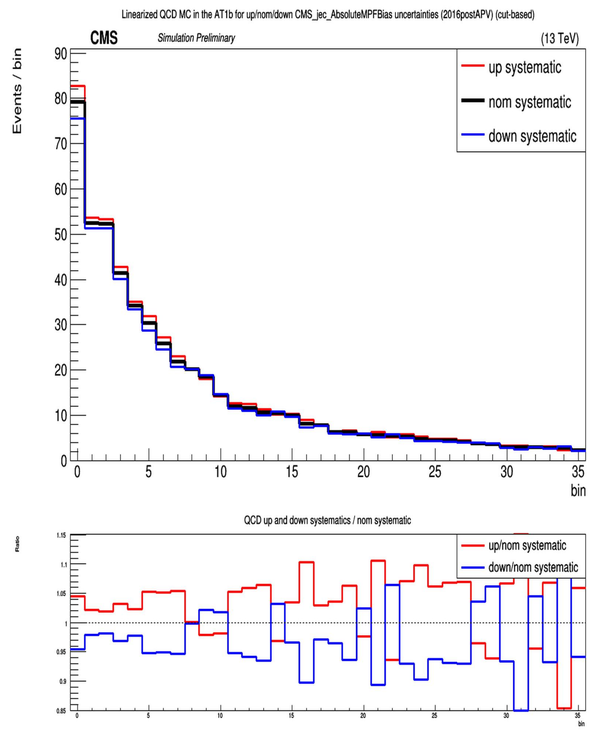

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsoluteCal uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

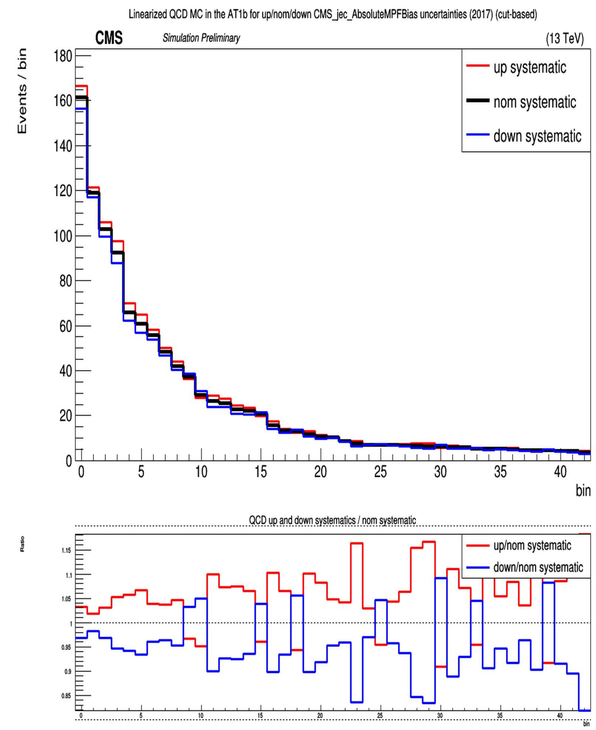

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsoluteCal uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

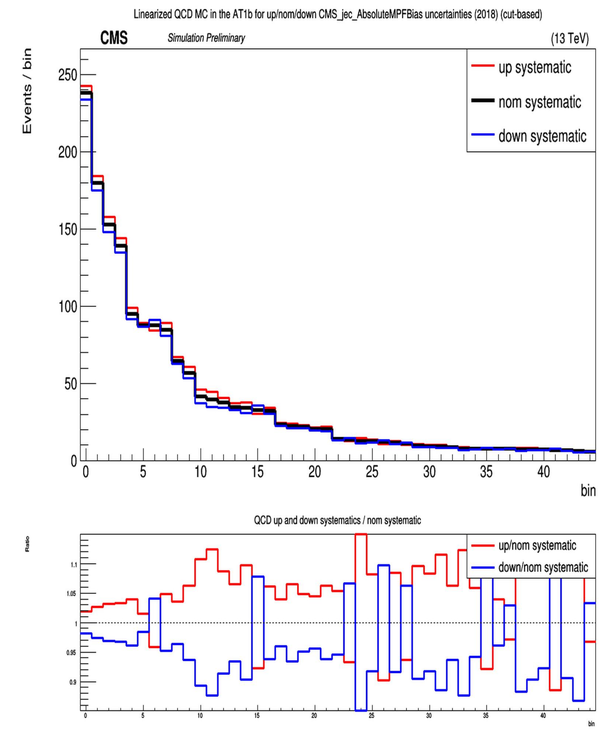

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsoluteCal uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

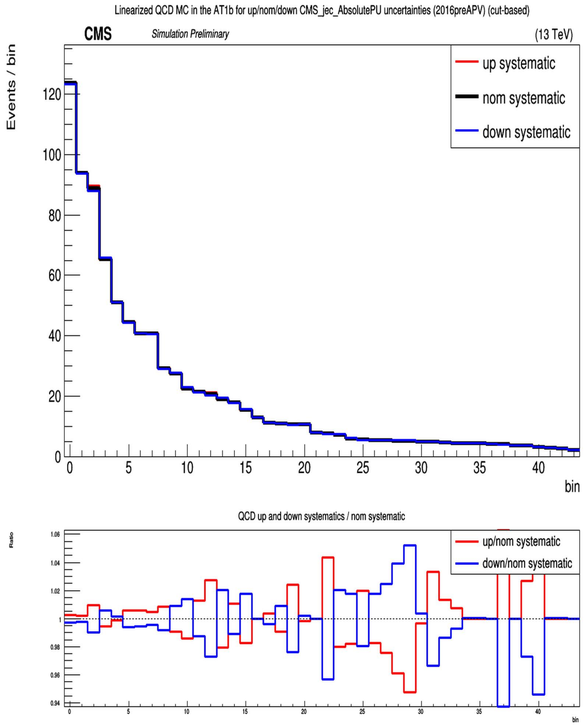

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsoluteCal uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

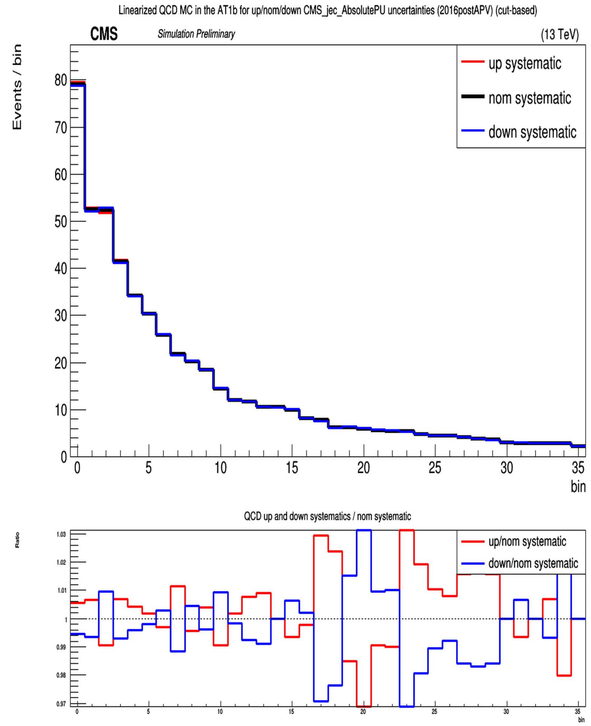

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsoluteMPFBias uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

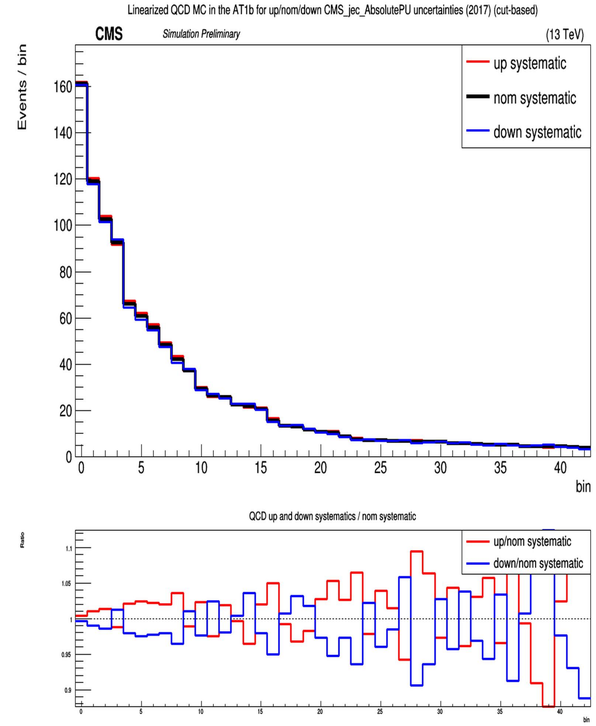

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsoluteMPFBias uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

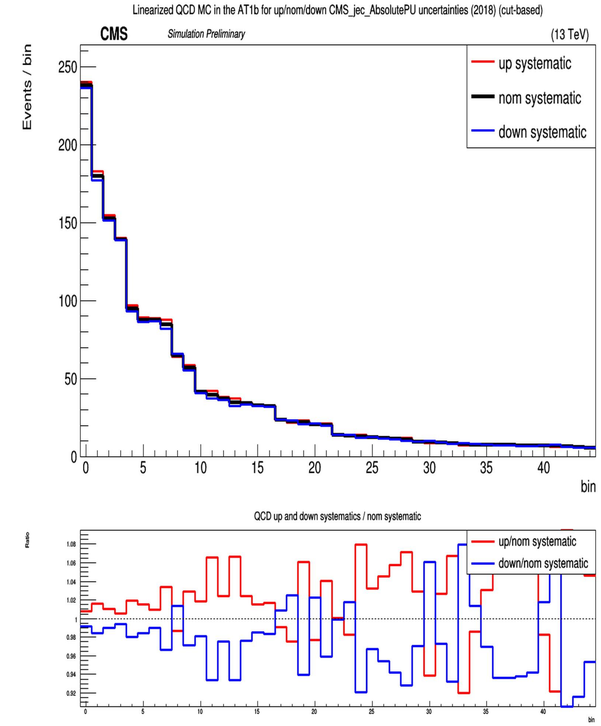

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsoluteMPFBias uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

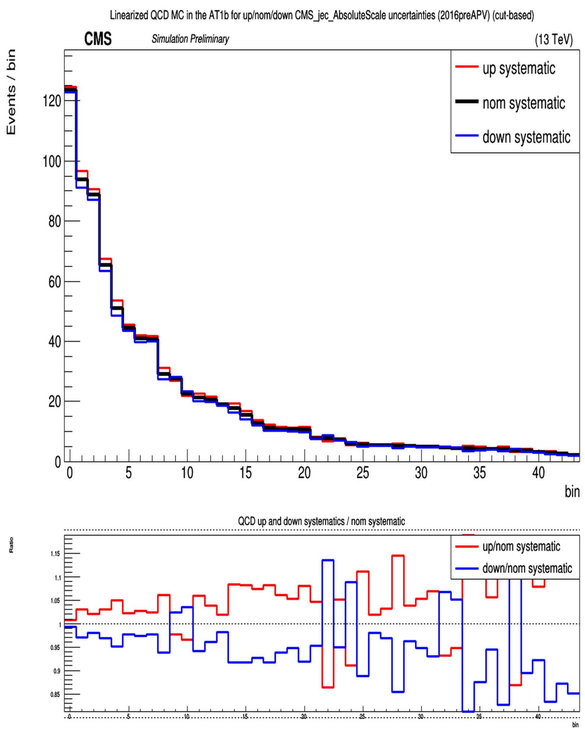

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsoluteMPFBias uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

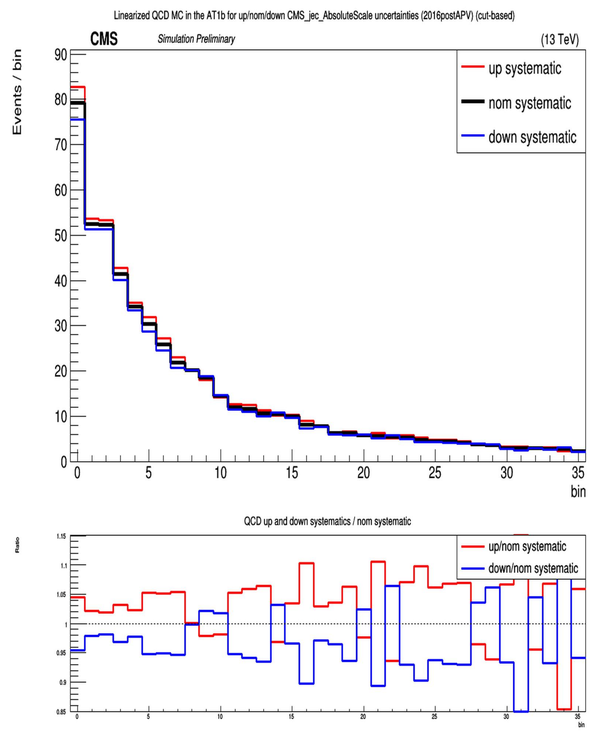

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsolutePU uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

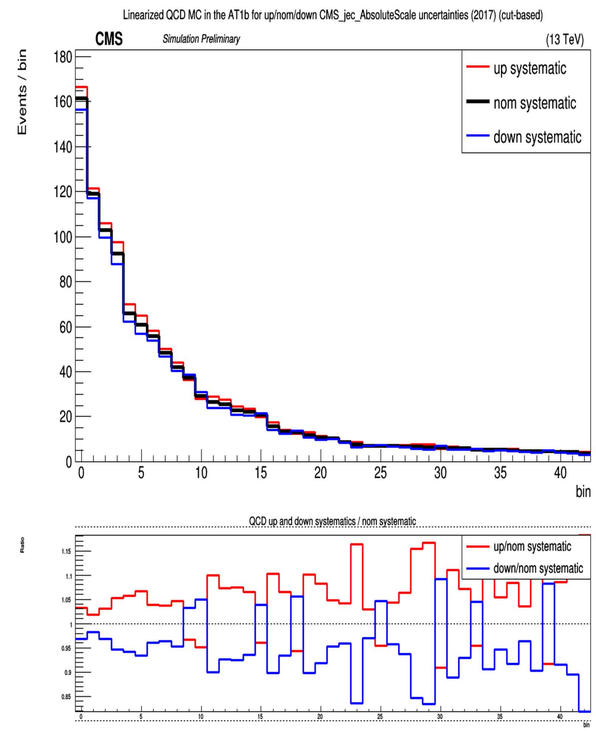

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsolutePU uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

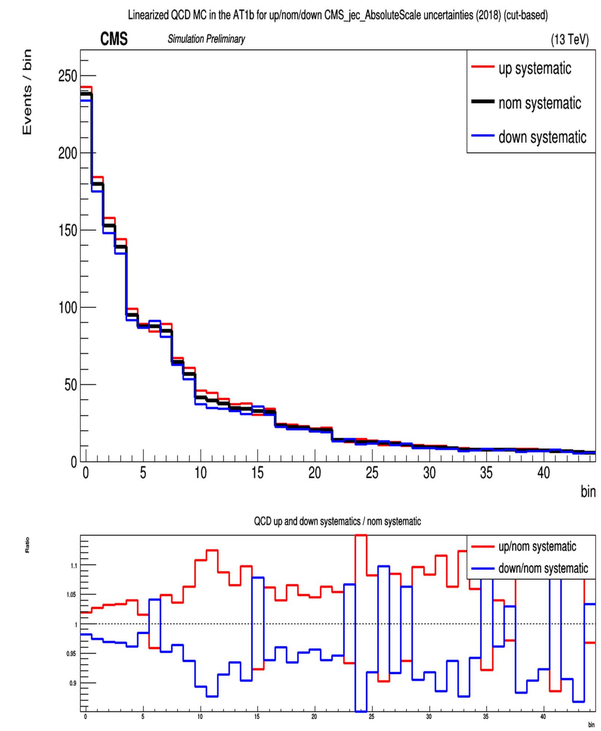

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsolutePU uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

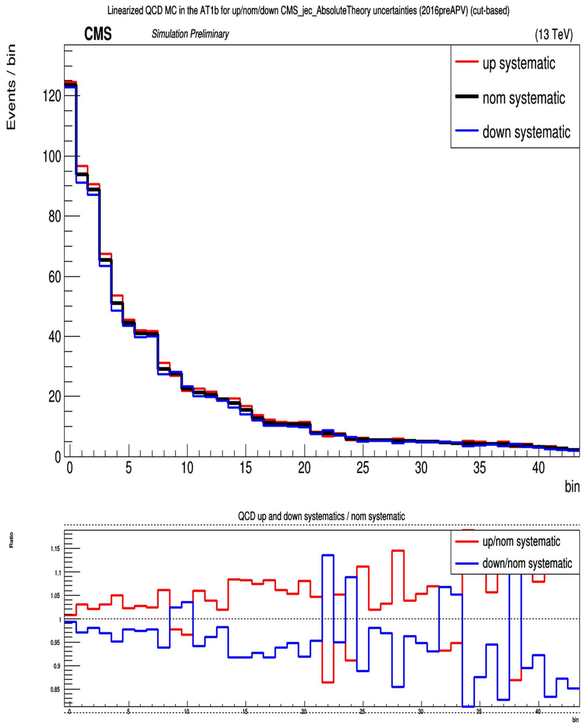

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsolutePU uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

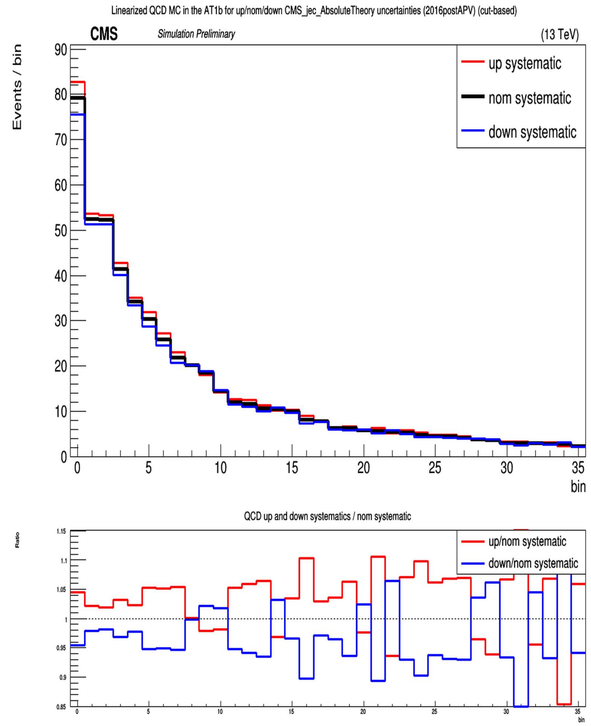

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsoluteScale uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

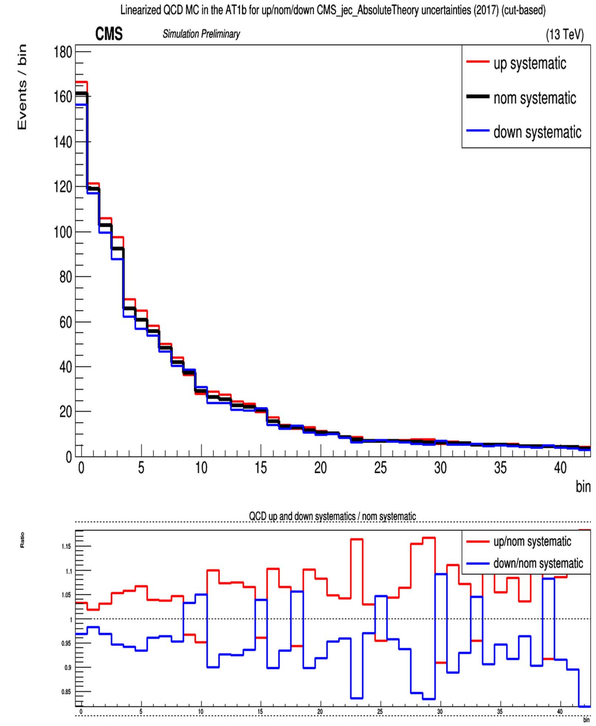

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsoluteScale uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

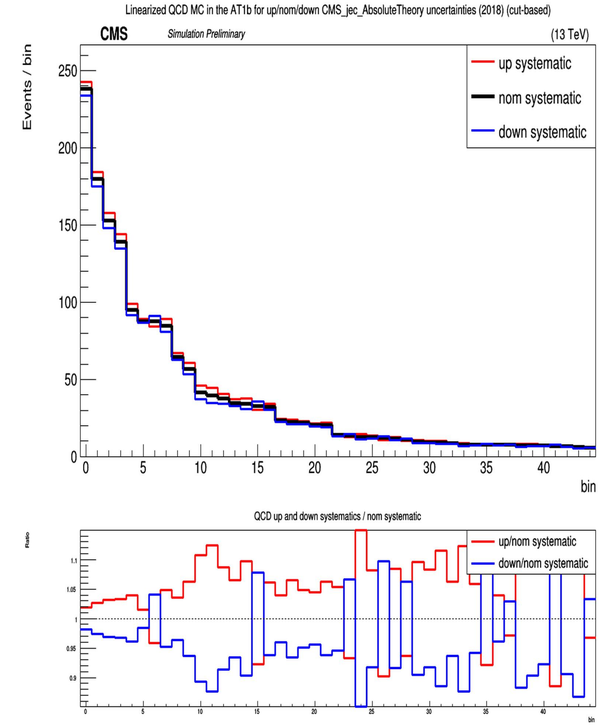

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsoluteScale uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

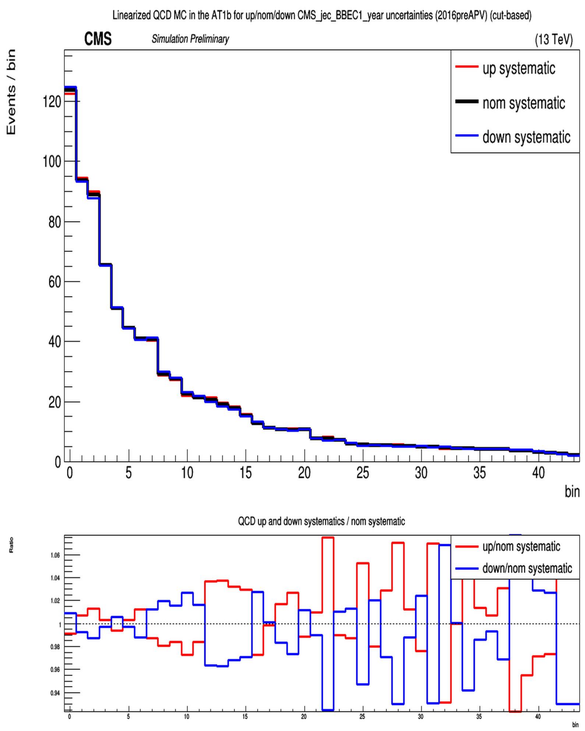

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsoluteScale uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

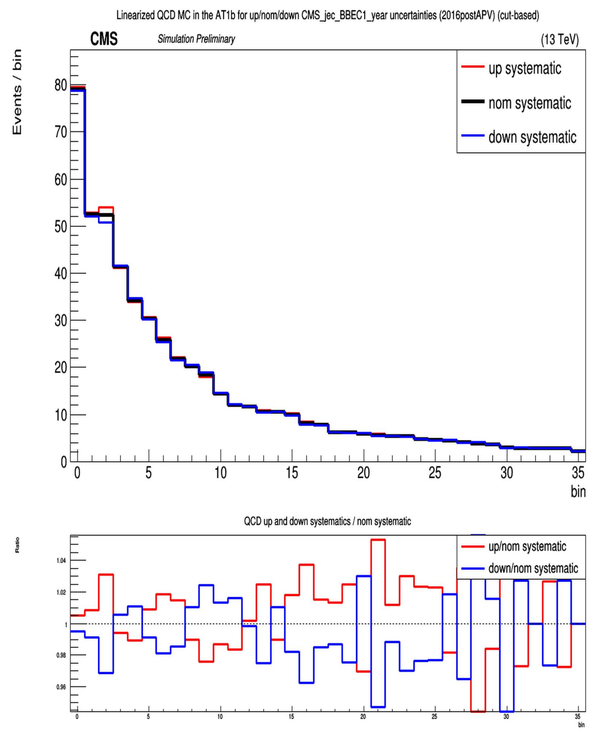

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsoluteTheory uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

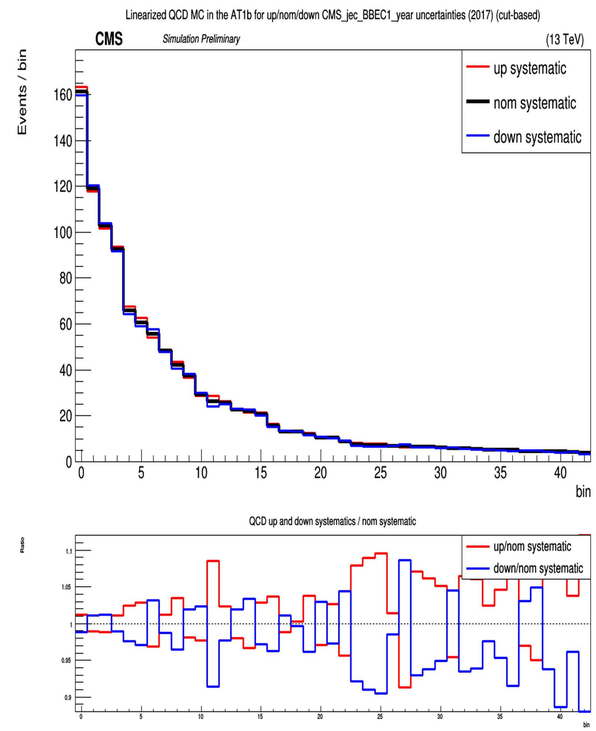

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsoluteTheory uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

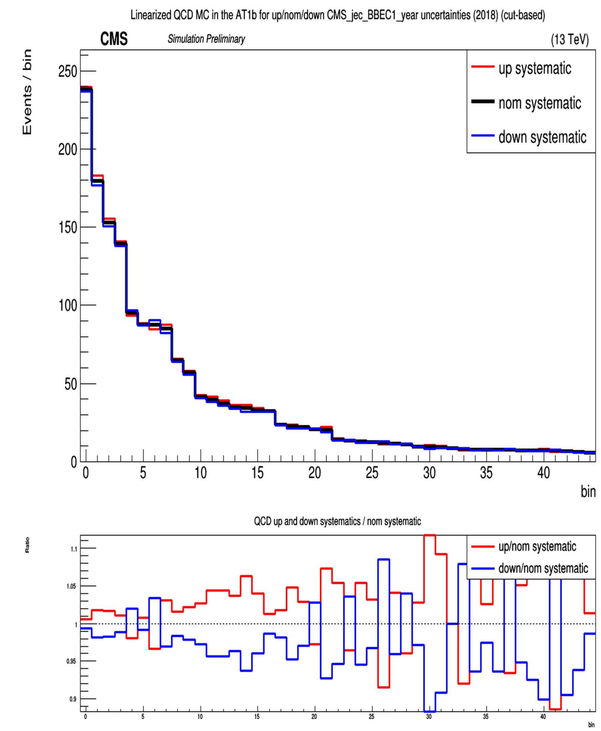

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsoluteTheory uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized QCD MC in the AT1b for up/nom/down CMS_jec_AbsoluteTheory uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

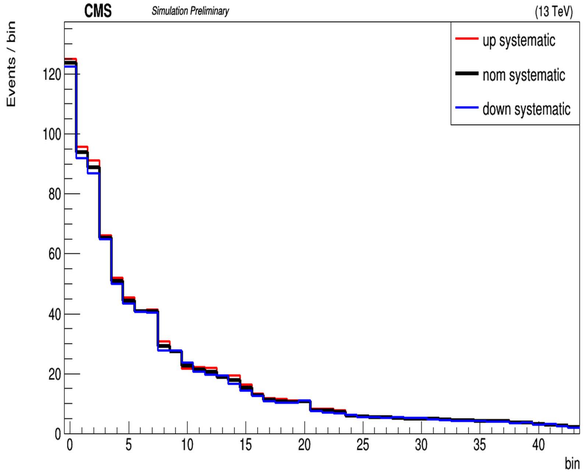

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_BBEC1_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

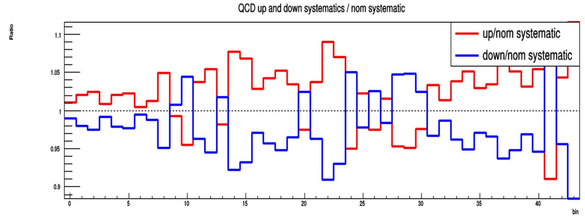

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_BBEC1_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic


Linearized QCD MC in the AT1b for up/nom/down CMS_jec_BBEC1_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

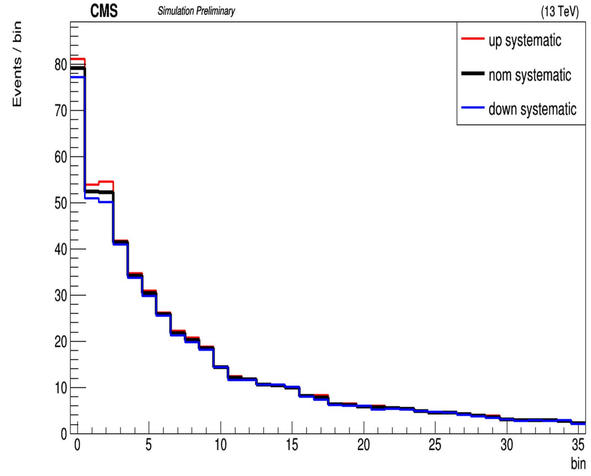

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_BBEC1_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

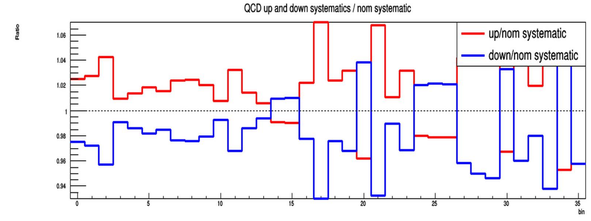
Linearized QCD MC in the AT1b for up/nom/down CMS_jec_FlavorQCD uncertainties (2016preAPV) (cut-based)



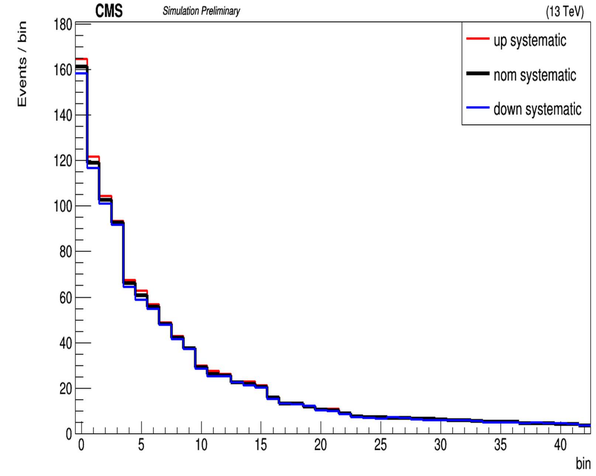



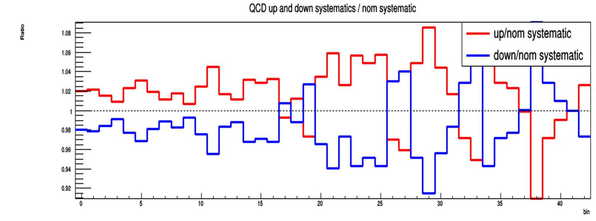

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_FlavorQCD uncertainties (2016postAPV) (cut-based)



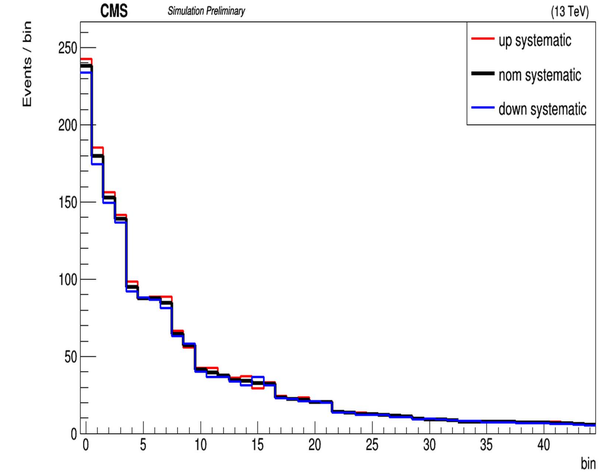



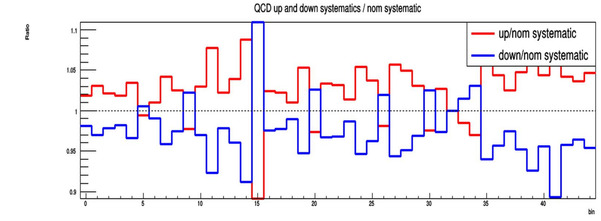

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_FlavorQCD uncertainties (2017) (cut-based)



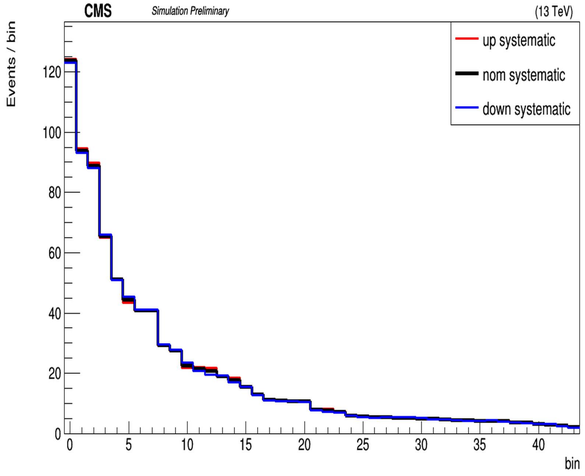



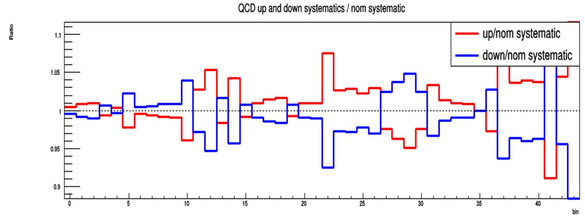

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_FlavorQCD uncertainties (2018) (cut-based)



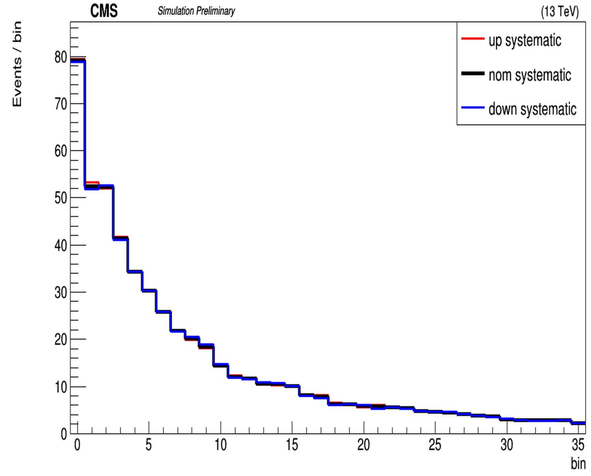



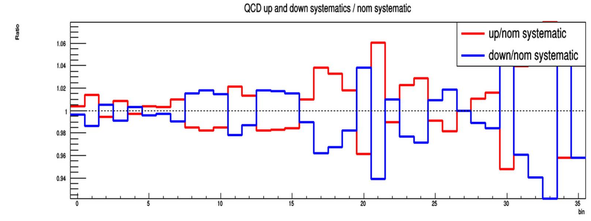

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_Fragmentation uncertainties (2016preAPV) (cut-based)



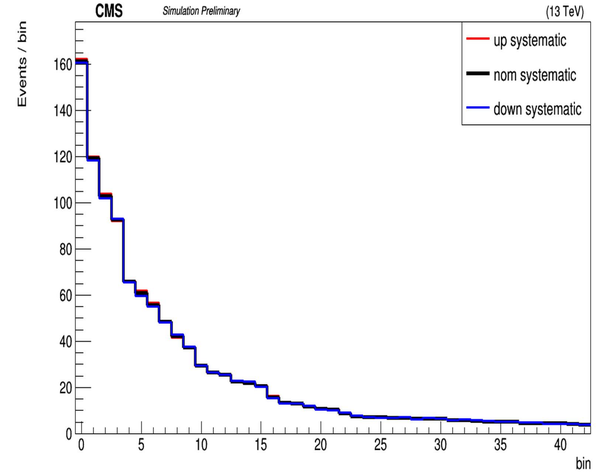



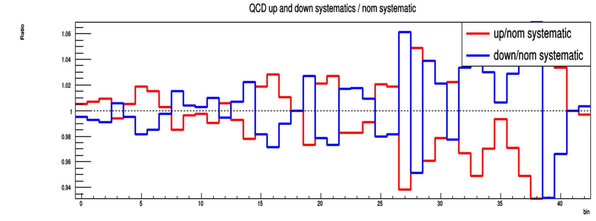

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_Fragmentation uncertainties (2016postAPV) (cut-based)



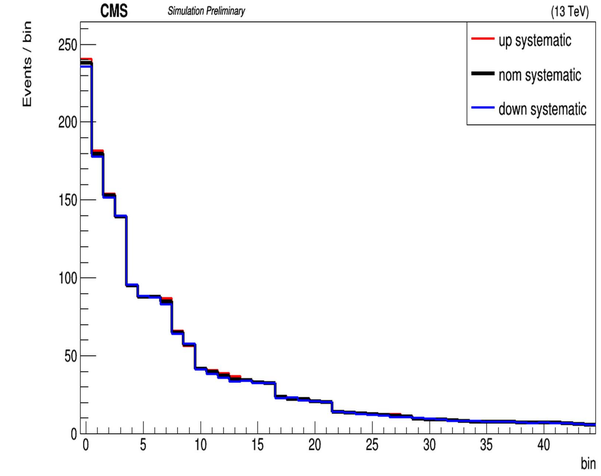



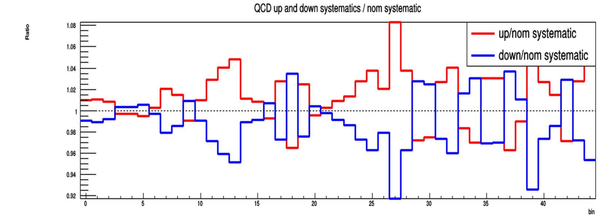

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_Fragmentation uncertainties (2017) (cut-based)

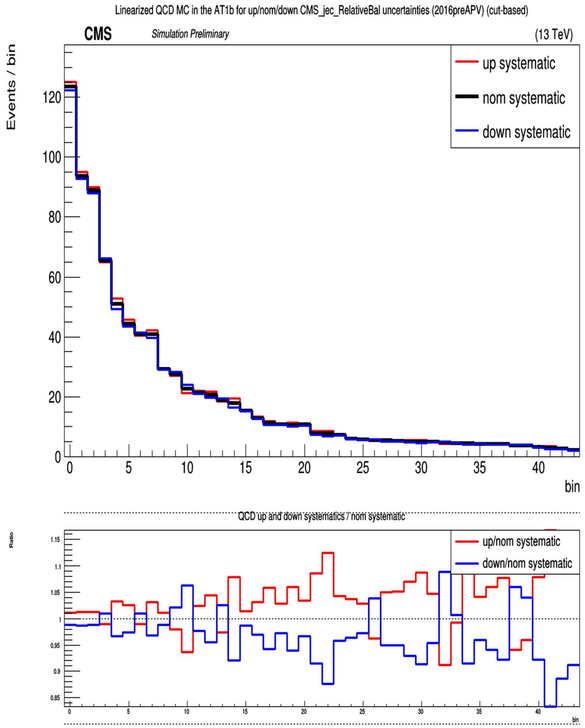


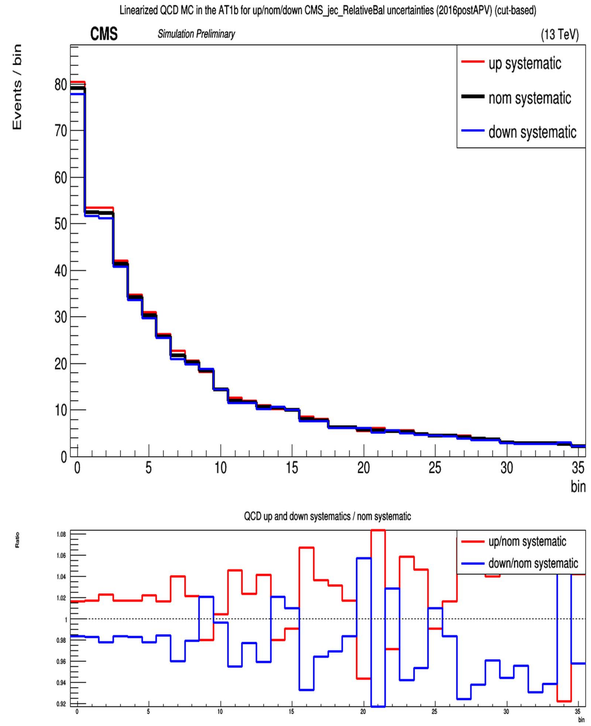



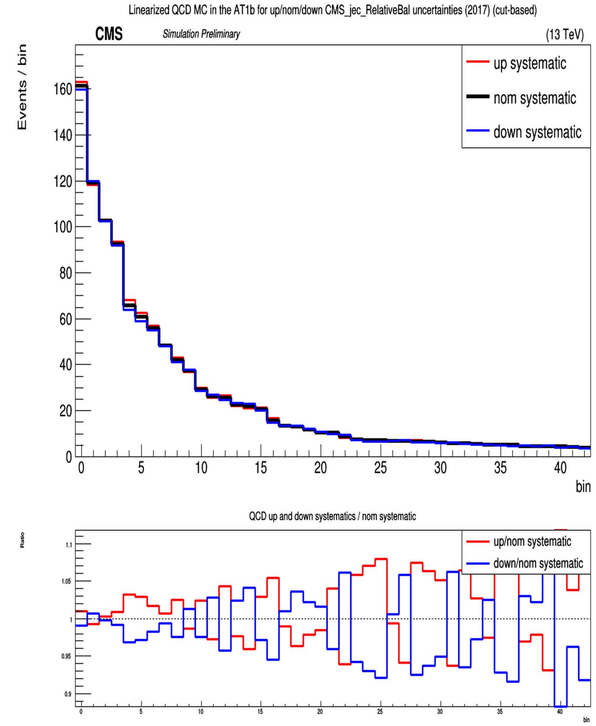

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_Fragmentation uncertainties (2018) (cut-based)

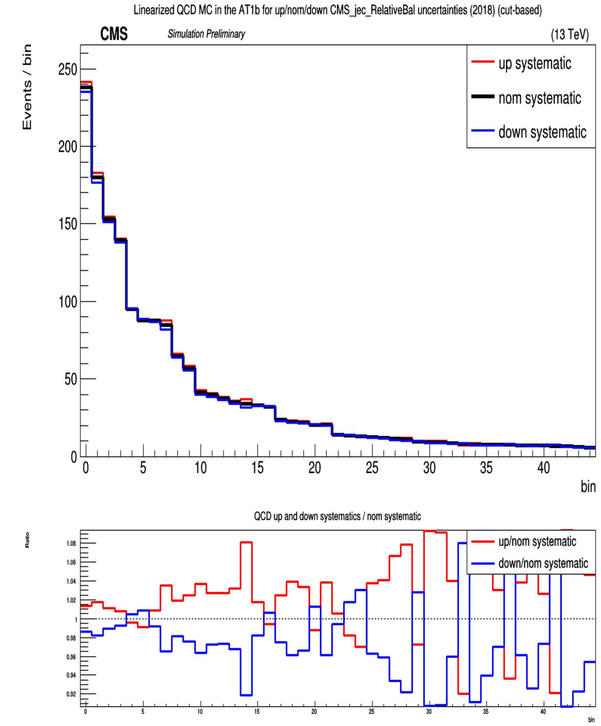


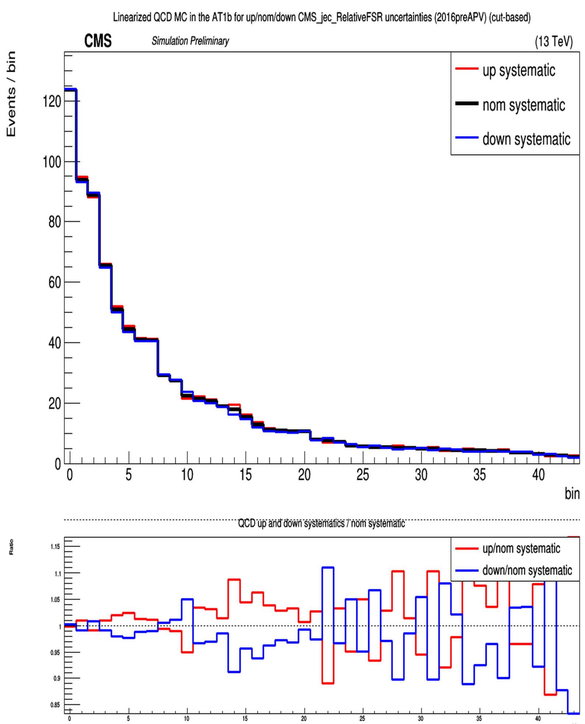



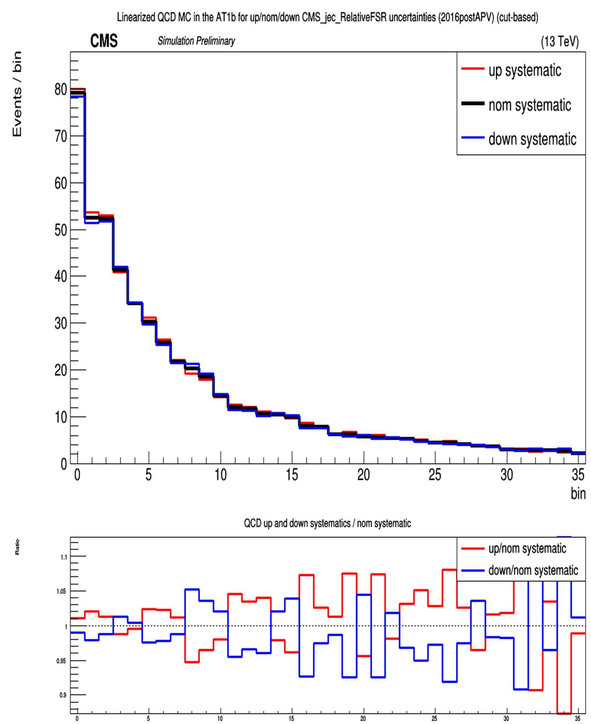

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_RelativeBal uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

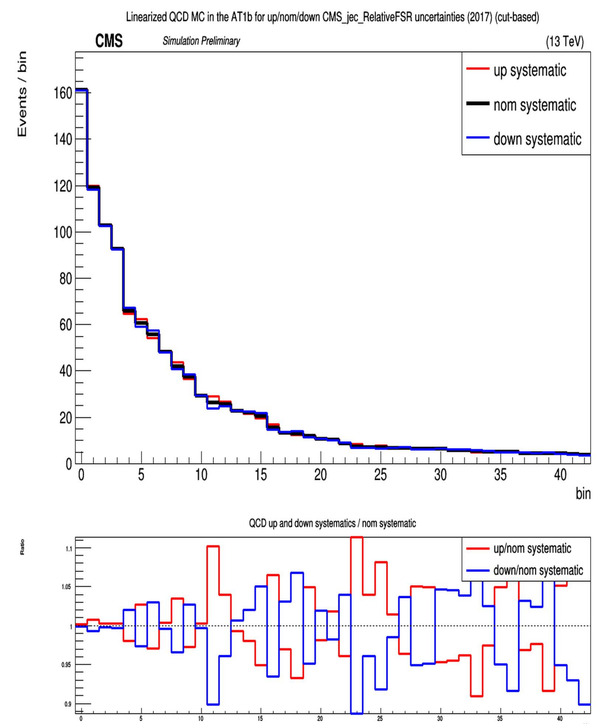

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_RelativeBal uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

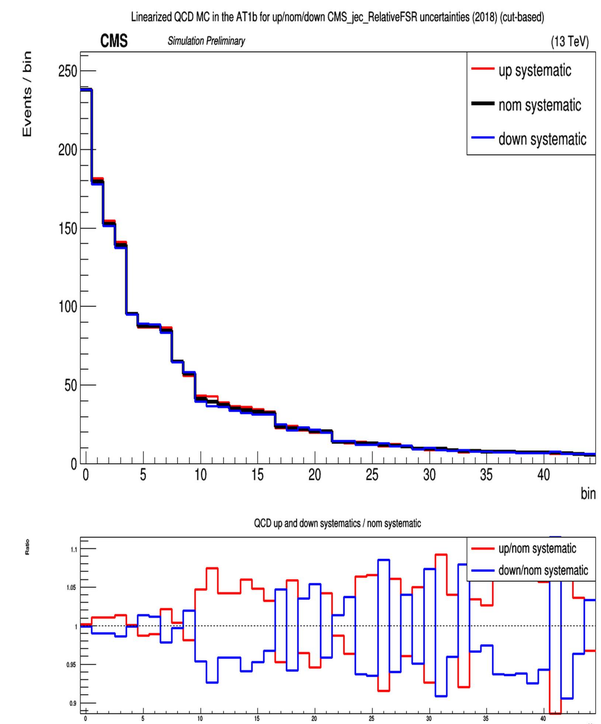

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_RelativeBal uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

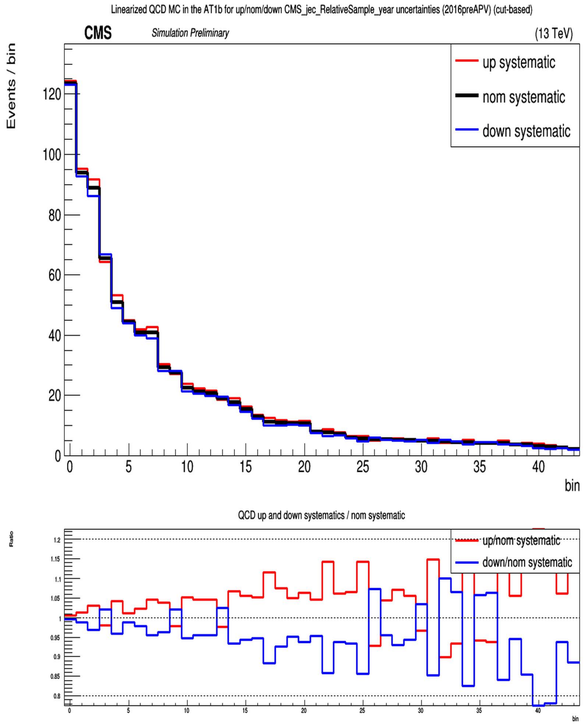

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_RelativeBal uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

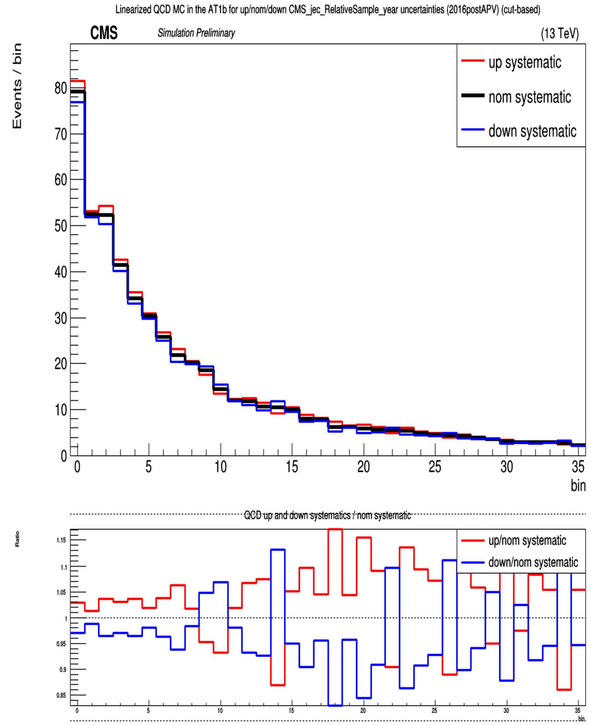

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_RelativeFSR uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

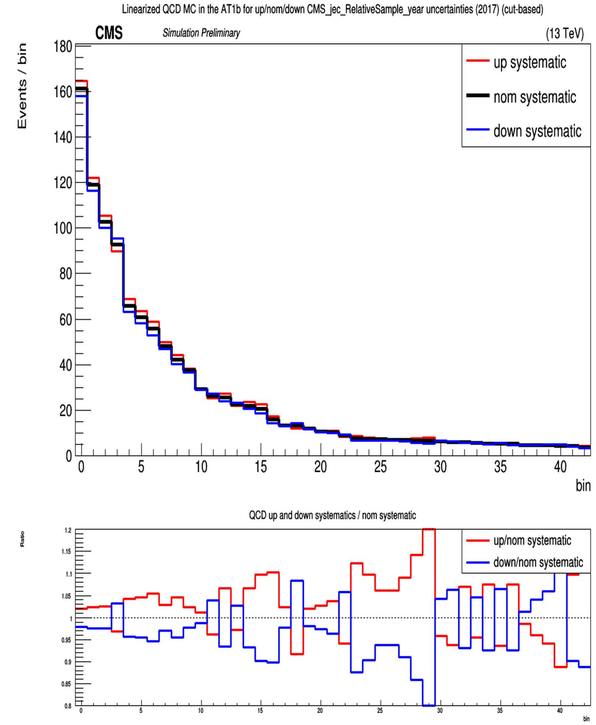

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_RelativeFSR uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

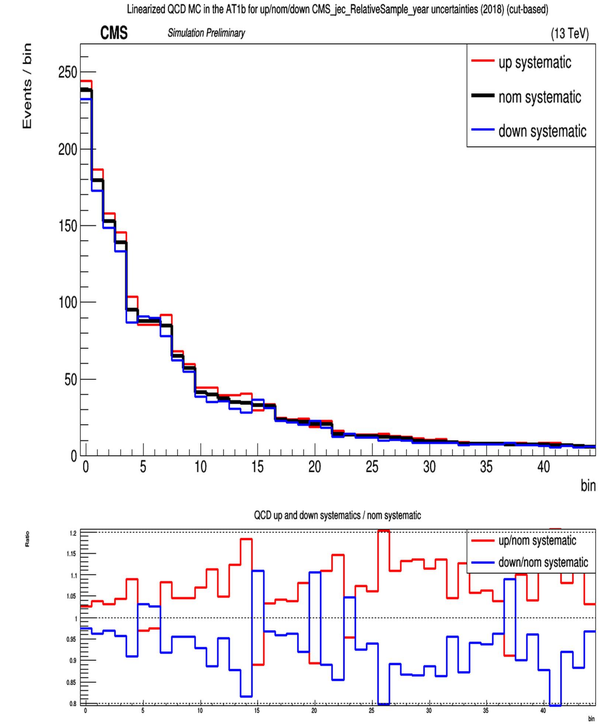

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_RelativeFSR uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

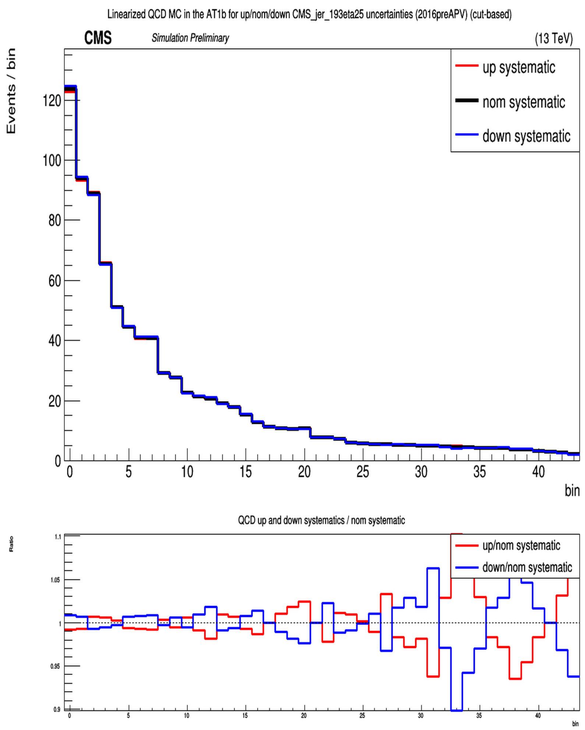

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_RelativeFSR uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

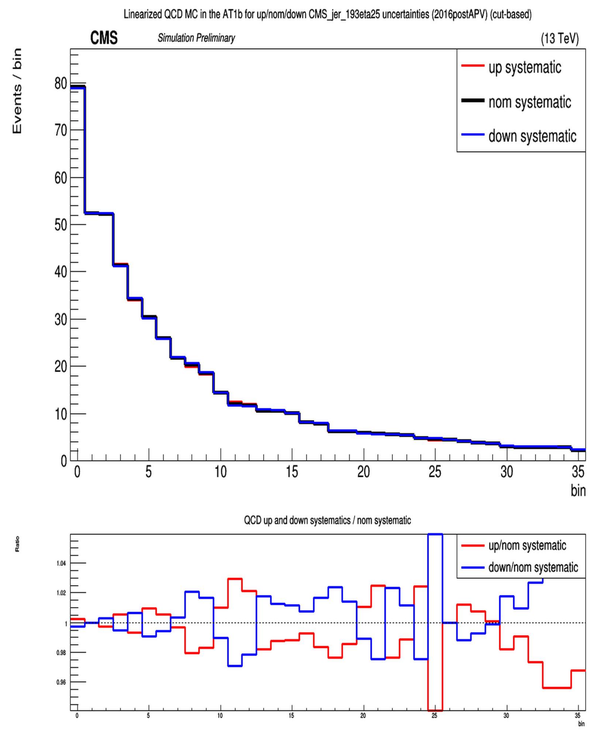

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_RelativeSample_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

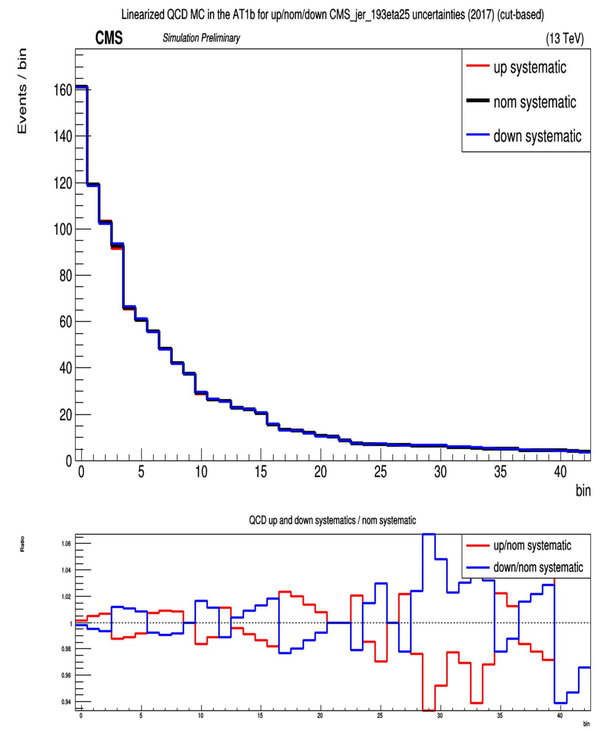

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_RelativeSample_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

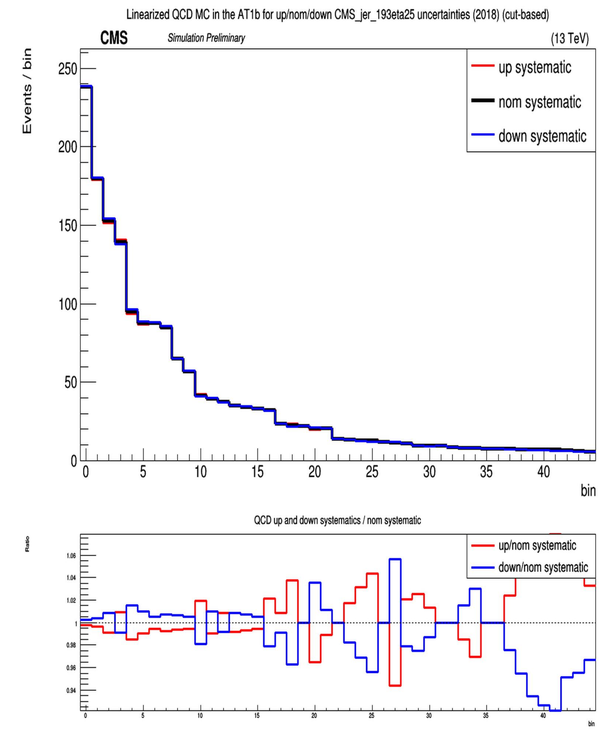

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_RelativeSample_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

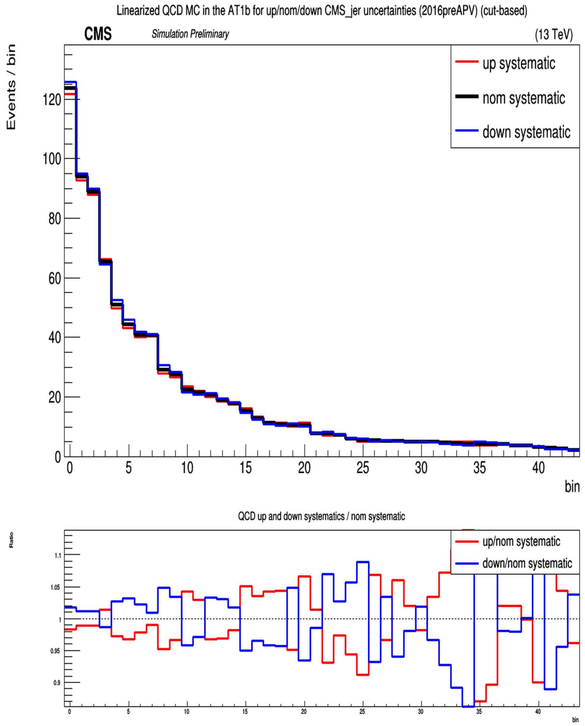

Linearized QCD MC in the AT1b for up/nom/down CMS_jec_RelativeSample_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

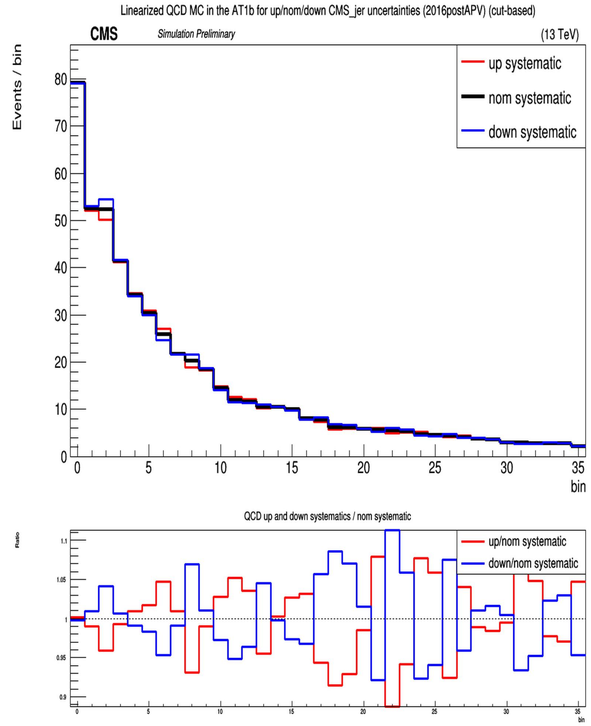

Linearized QCD MC in the AT1b for up/nom/down CMS_jer_193eta25 uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

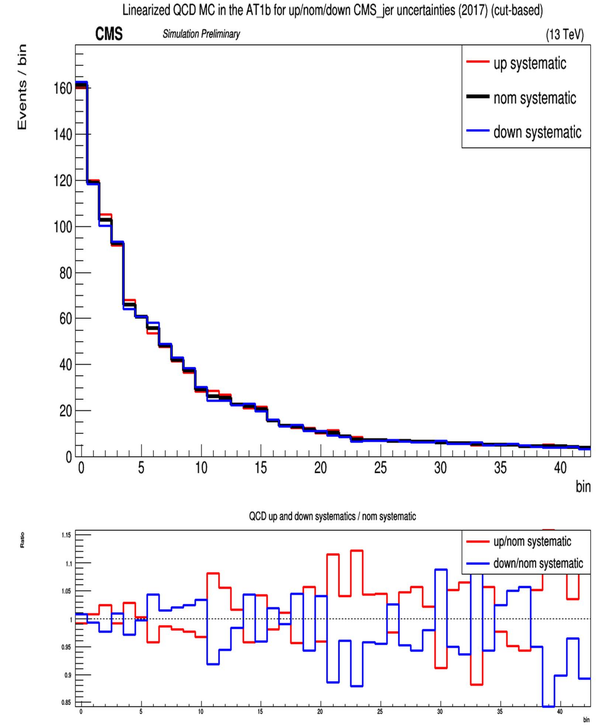

Linearized QCD MC in the AT1b for up/nom/down CMS_jer_193eta25 uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

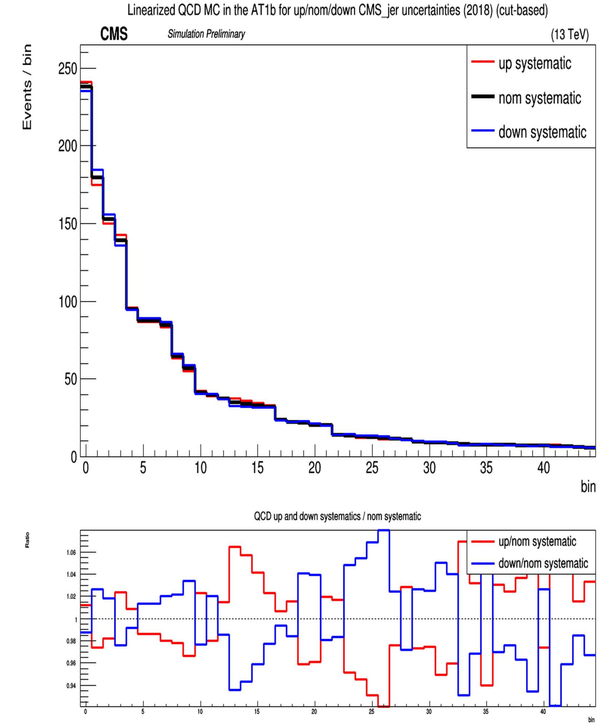

Linearized QCD MC in the AT1b for up/nom/down CMS_jer_193eta25 uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

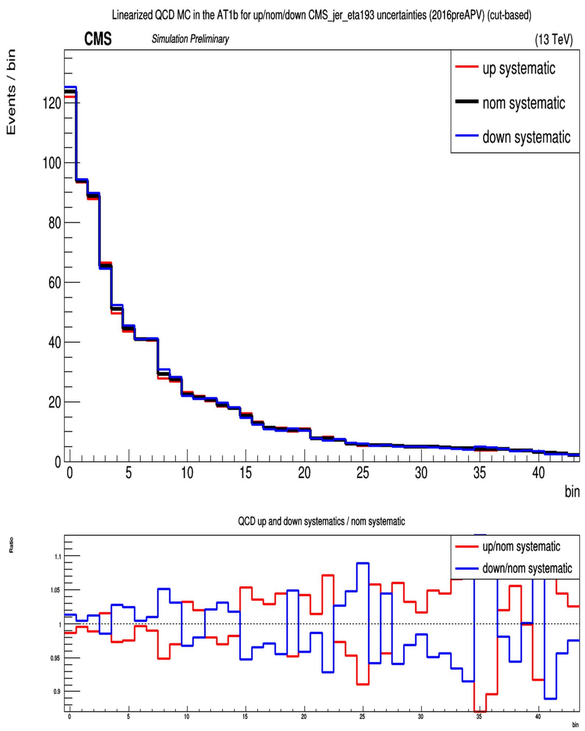

Linearized QCD MC in the AT1b for up/nom/down CMS_jer_193eta25 uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

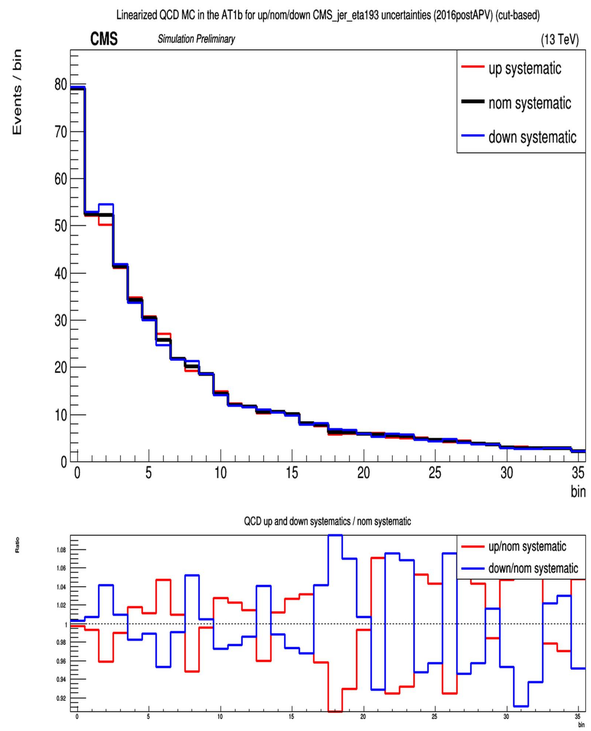

Linearized QCD MC in the AT1b for up/nom/down CMS_jer uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

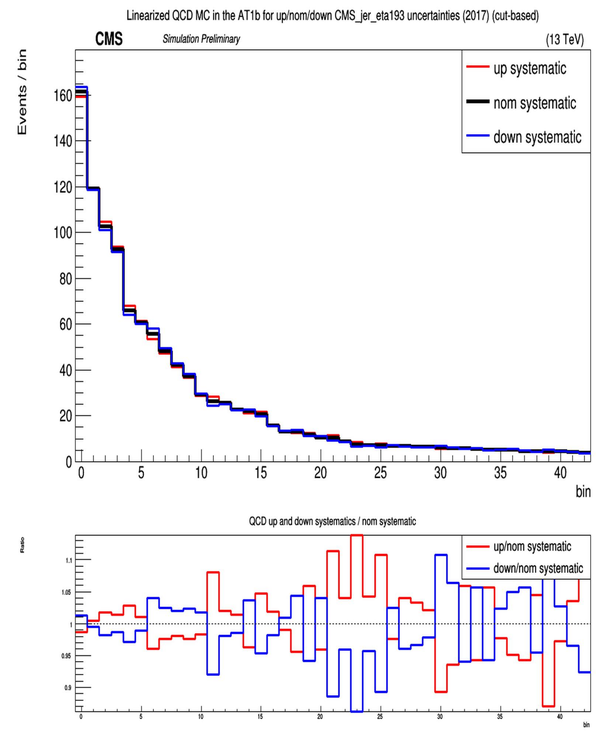

Linearized QCD MC in the AT1b for up/nom/down CMS_jer uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

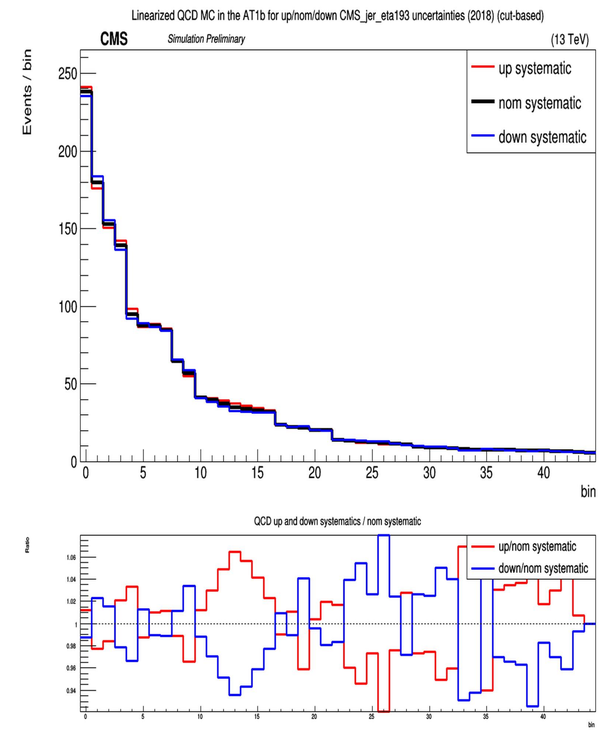

Linearized QCD MC in the AT1b for up/nom/down CMS_jer uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

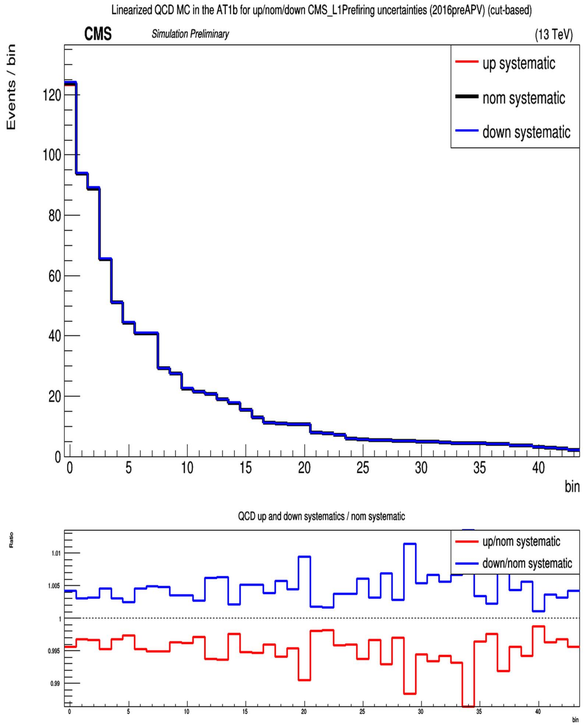

Linearized QCD MC in the AT1b for up/nom/down CMS_jer uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

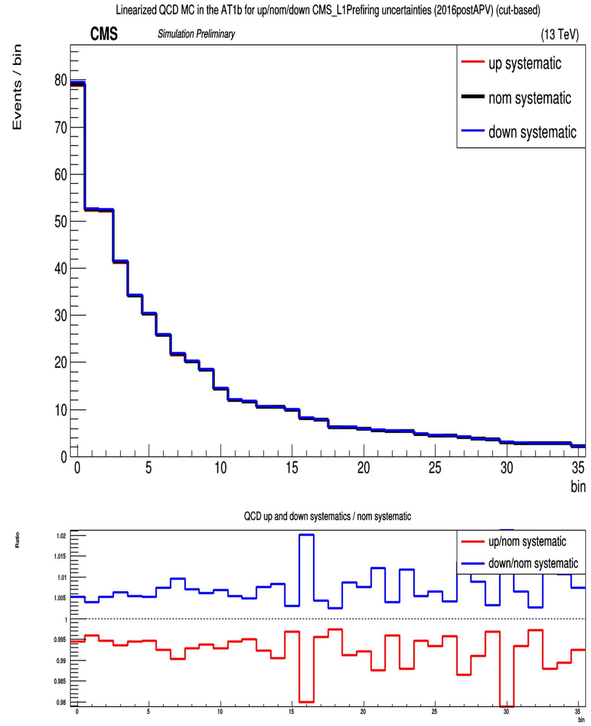

Linearized QCD MC in the AT1b for up/nom/down CMS_jer_eta193 uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

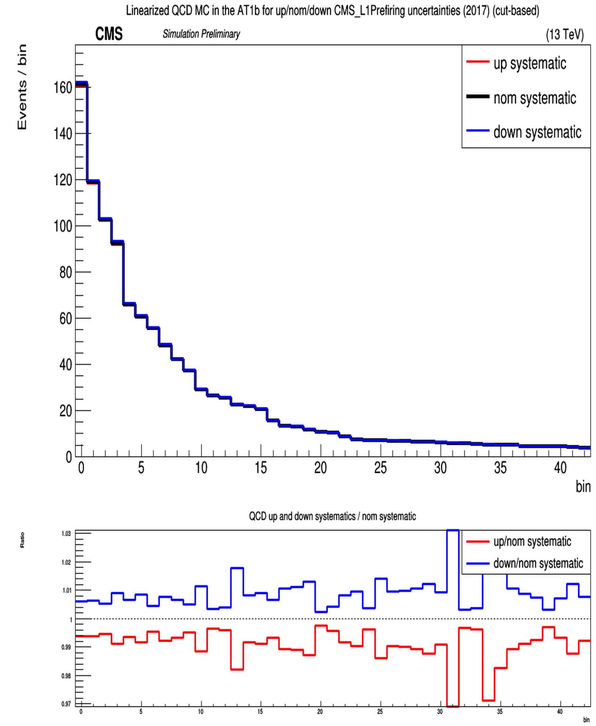

Linearized QCD MC in the AT1b for up/nom/down CMS_jer_eta193 uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

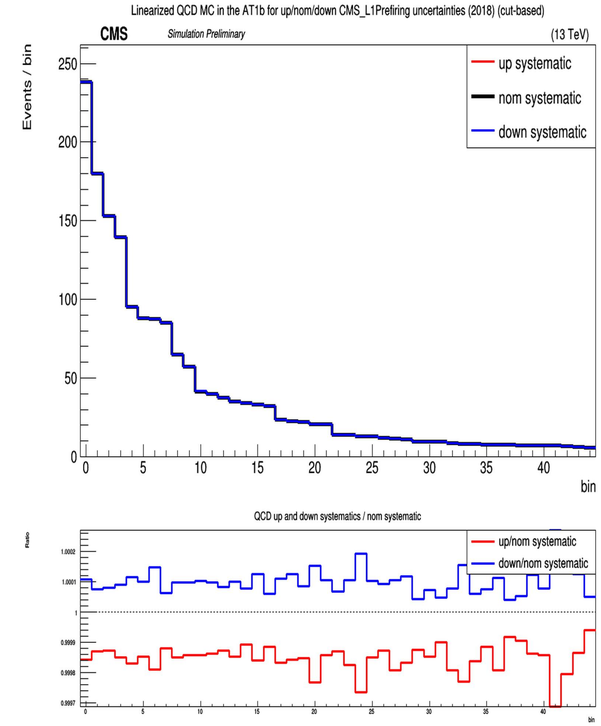

Linearized QCD MC in the AT1b for up/nom/down CMS_jer_eta193 uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

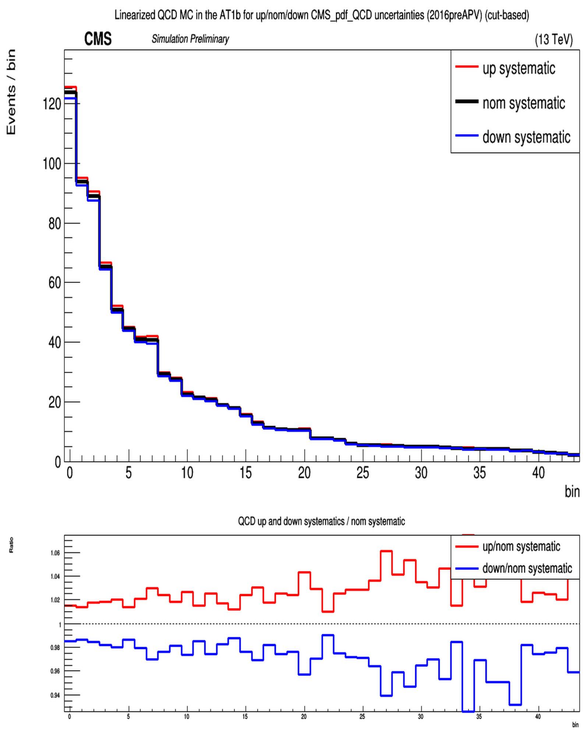

Linearized QCD MC in the AT1b for up/nom/down CMS_jer_eta193 uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

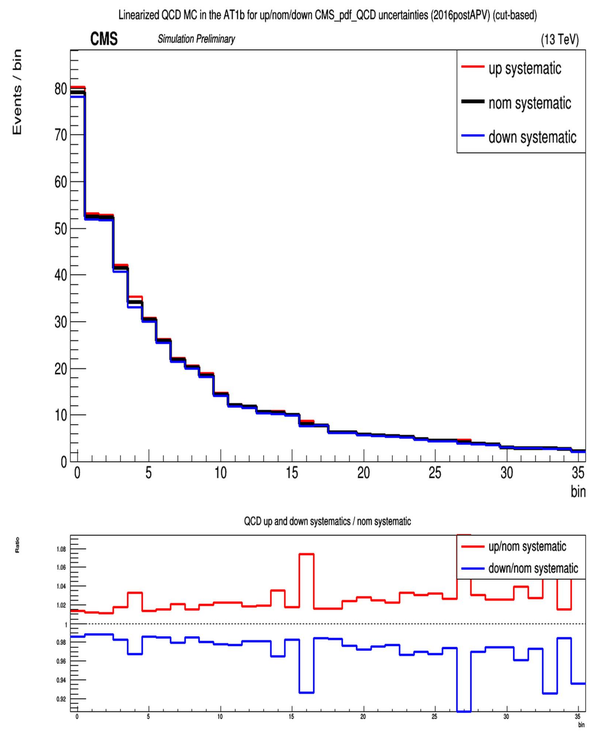

Linearized QCD MC in the AT1b for up/nom/down CMS_L1Prefiring uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

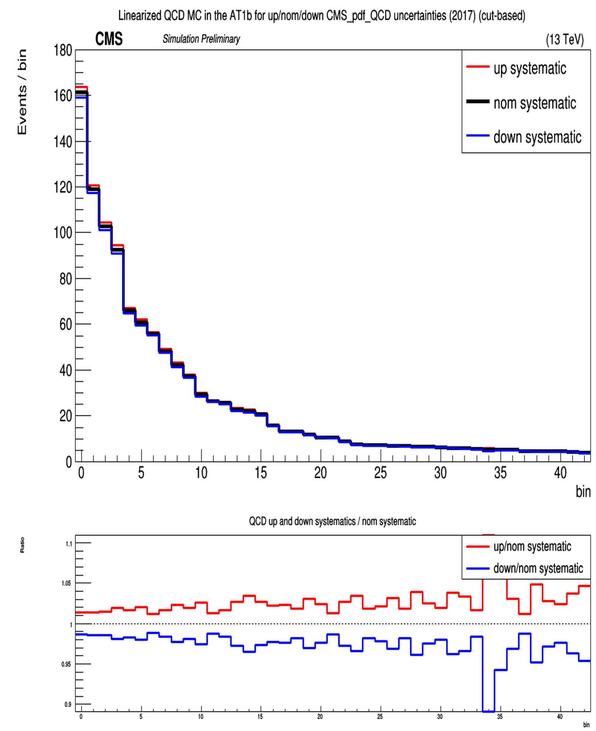

Linearized QCD MC in the AT1b for up/nom/down CMS_L1Prefiring uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

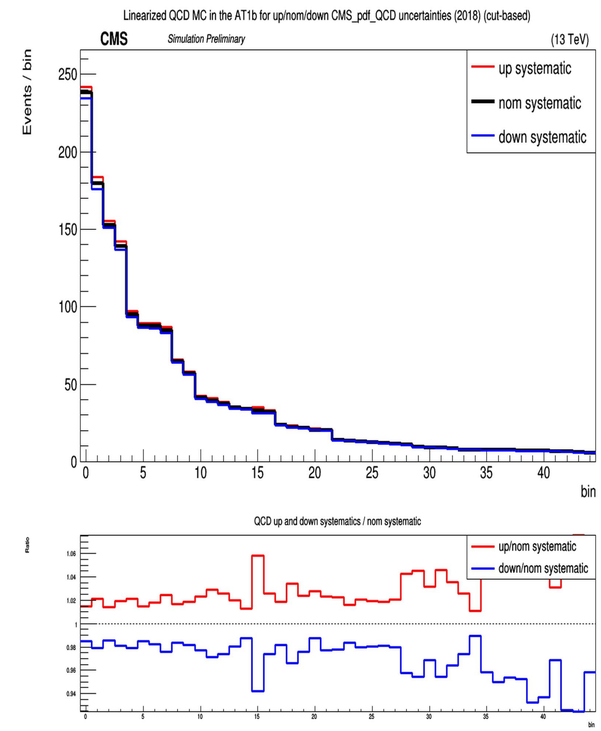

Linearized QCD MC in the AT1b for up/nom/down CMS_L1Prefiring uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

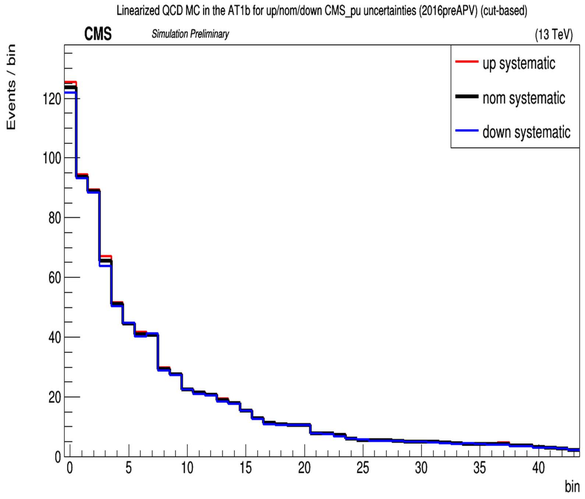

Linearized QCD MC in the AT1b for up/nom/down CMS_L1Prefiring uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

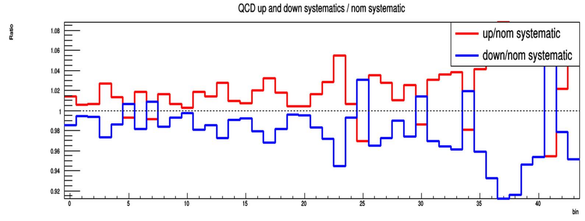

Linearized QCD MC in the AT1b for up/nom/down CMS_pdf_QCD uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

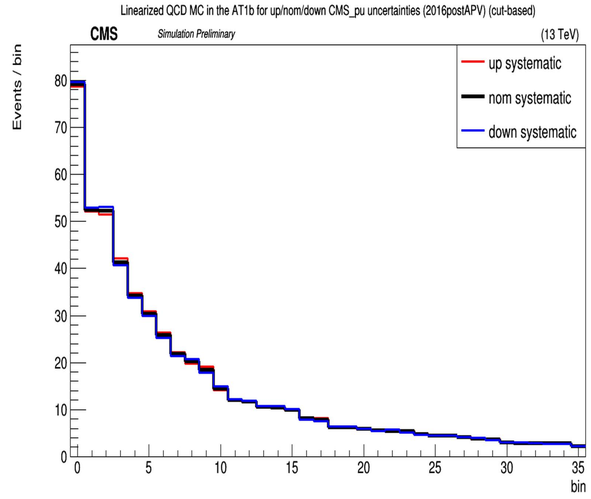

Linearized QCD MC in the AT1b for up/nom/down CMS_pdf_QCD uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

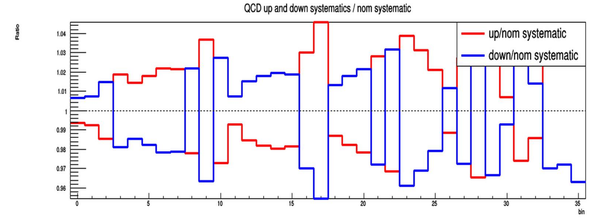

Linearized QCD MC in the AT1b for up/nom/down CMS_pdf_QCD uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

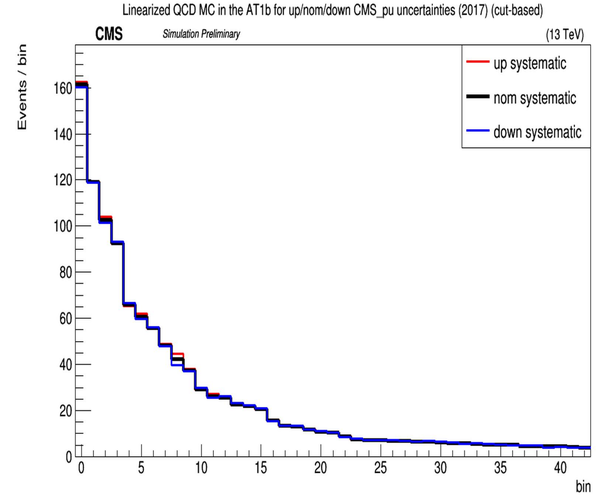

Linearized QCD MC in the AT1b for up/nom/down CMS_pdf_QCD uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

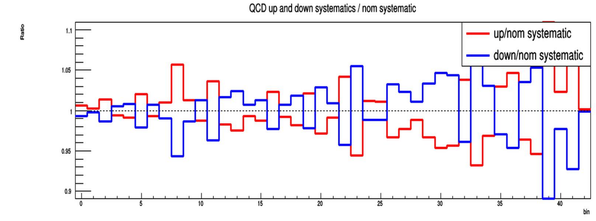

Linearized QCD MC in the AT1b for up/nom/down CMS_pu uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

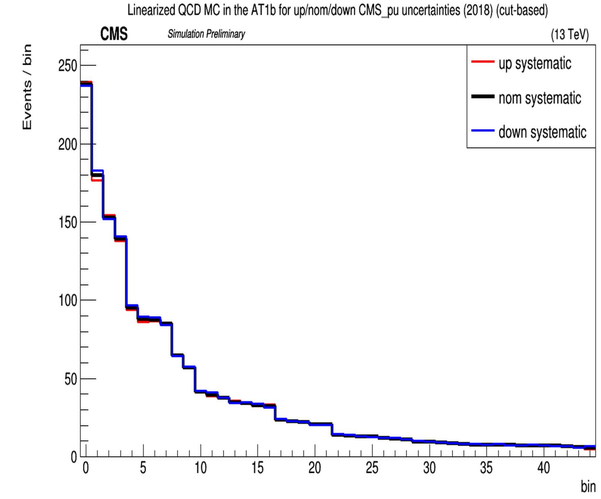

QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

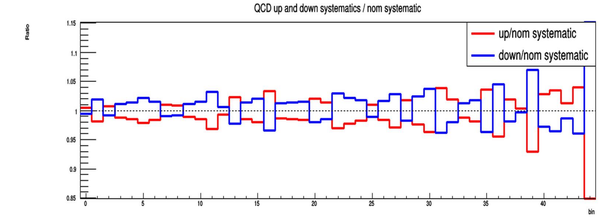

Linearized QCD MC in the AT1b for up/nom/down CMS_pu uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

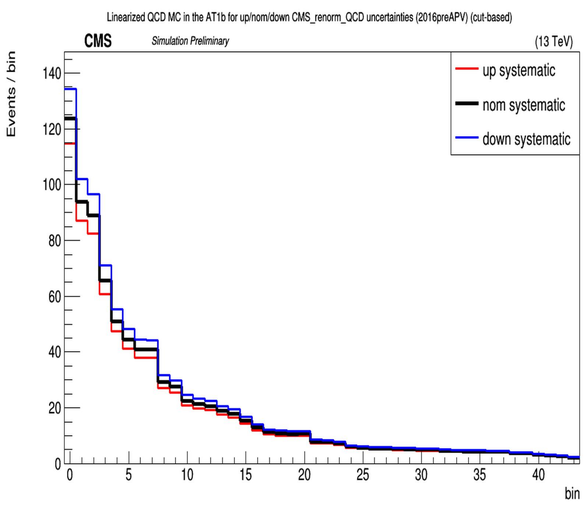

QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

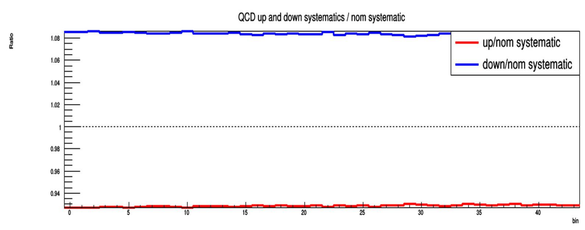

Linearized QCD MC in the AT1b for up/nom/down CMS_pu uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

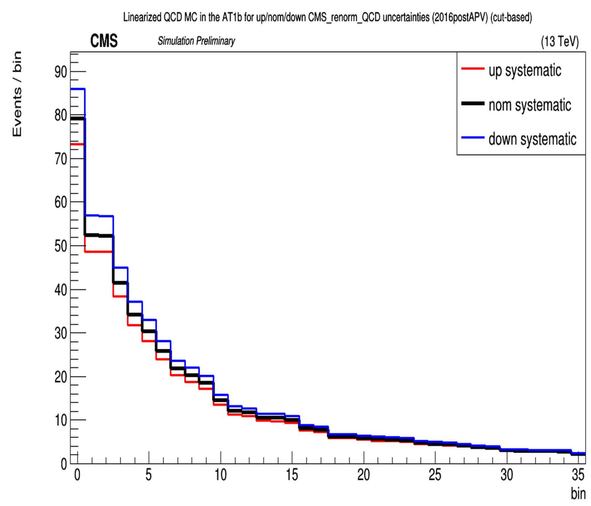

QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

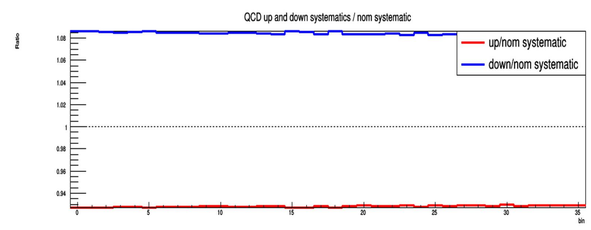

Linearized QCD MC in the AT1b for up/nom/down CMS_pu uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

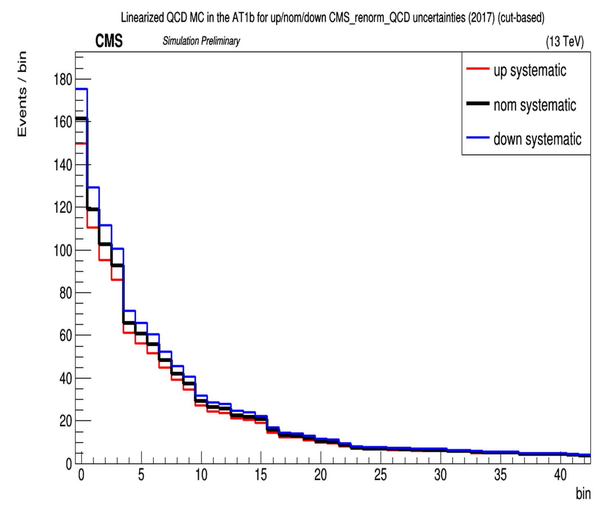

QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

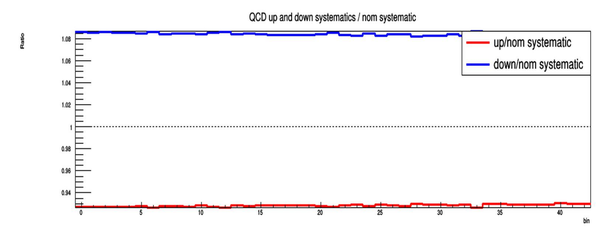

Linearized QCD MC in the AT1b for up/nom/down CMS_renorm_QCD uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

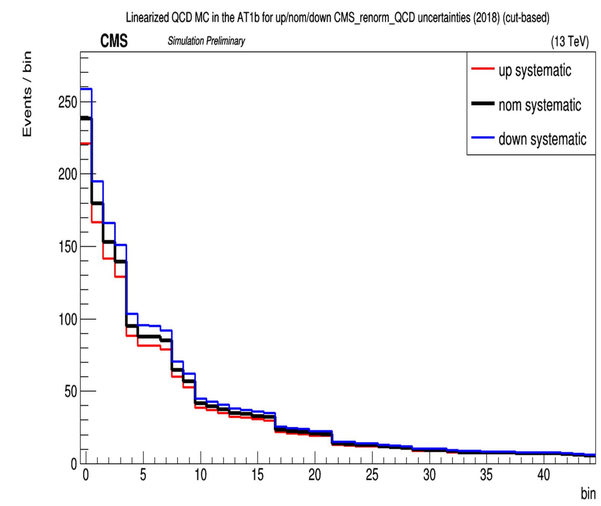

QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

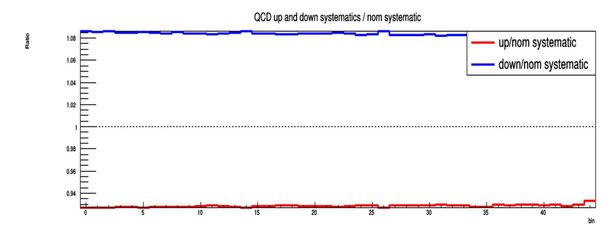

Linearized QCD MC in the AT1b for up/nom/down CMS_renorm_QCD uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

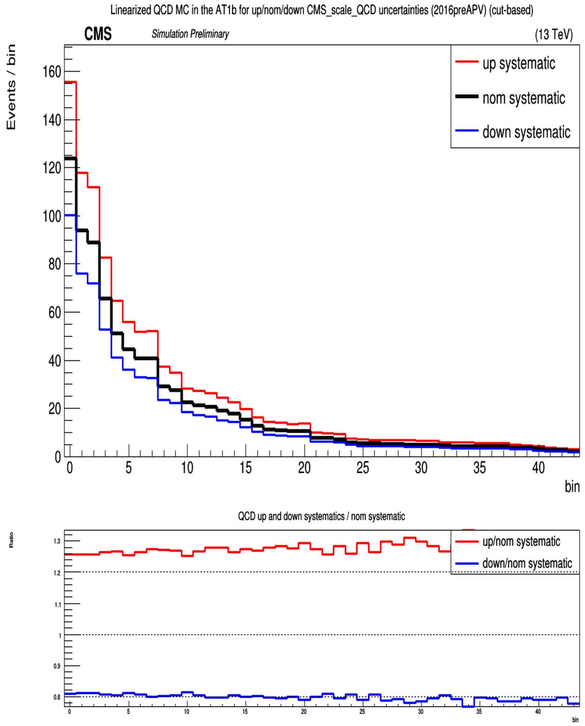

QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

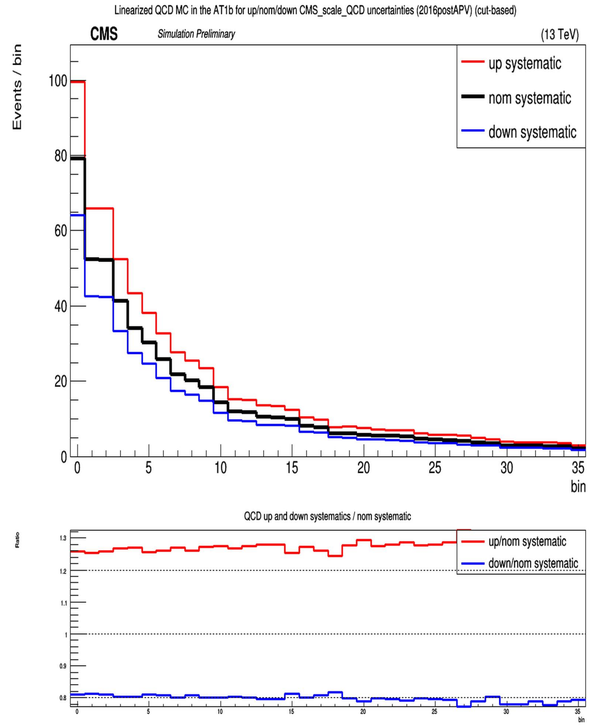

Linearized QCD MC in the AT1b for up/nom/down CMS_renorm_QCD uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

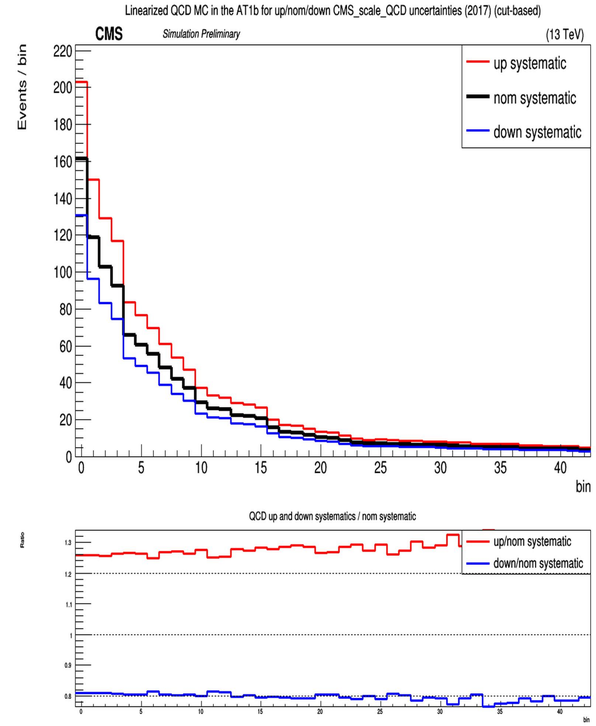

QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

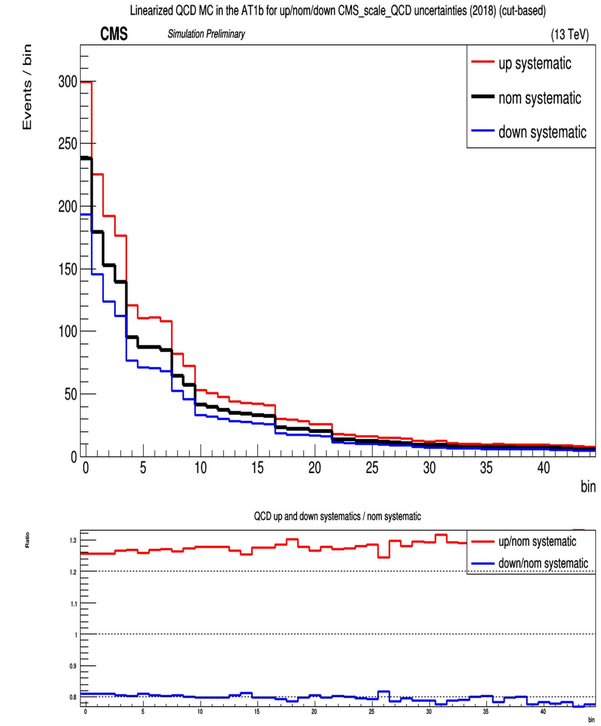

Linearized QCD MC in the AT1b for up/nom/down CMS_renorm_QCD uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

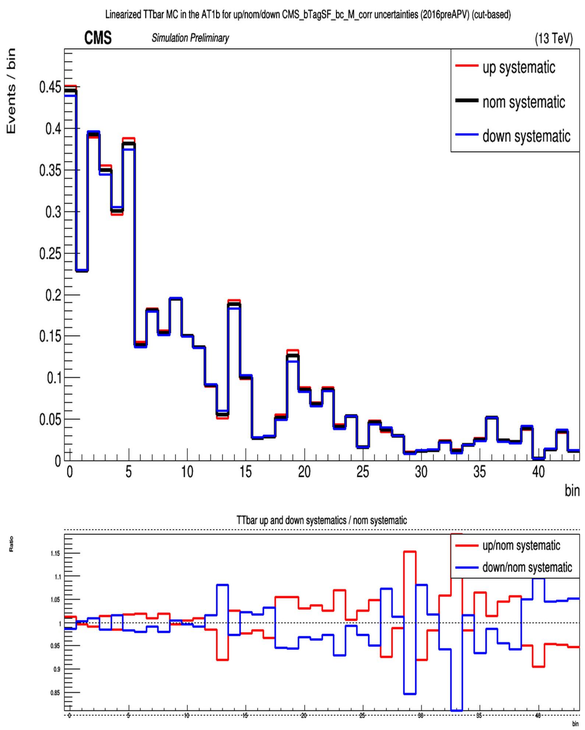

QCD up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

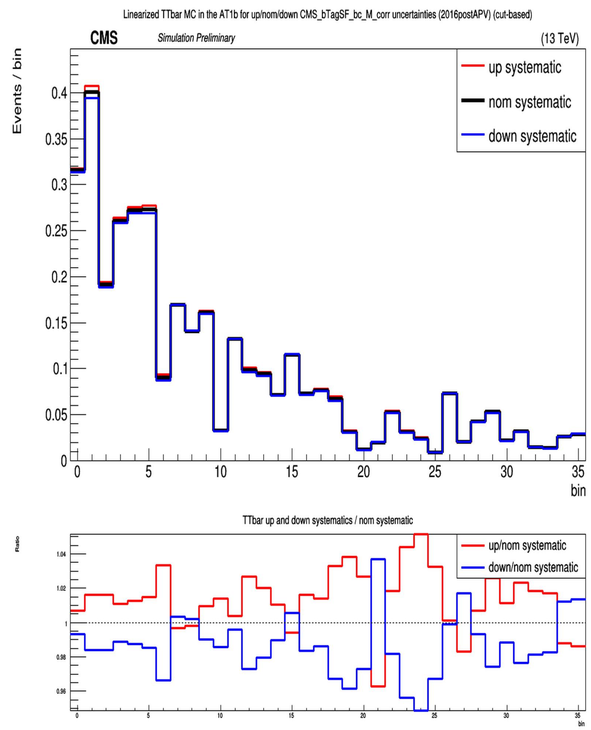

Linearized QCD MC in the AT1b for up/nom/down CMS_scale_QCD uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

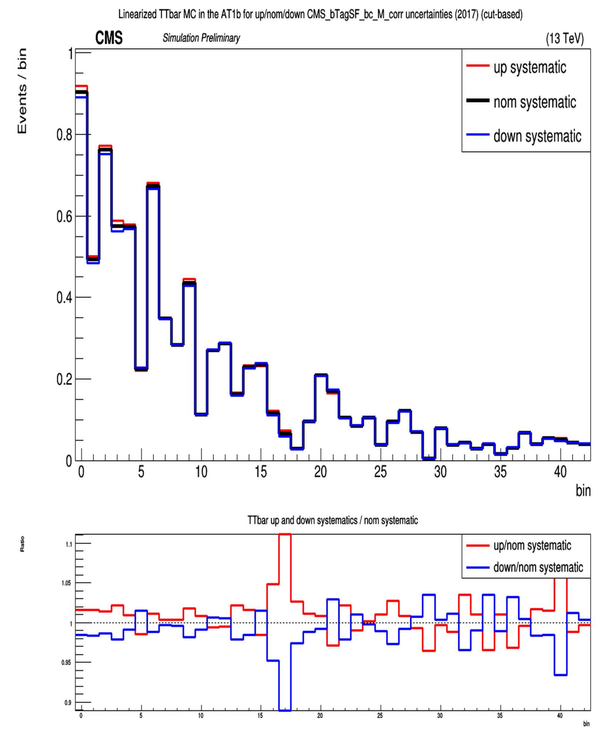

Linearized QCD MC in the AT1b for up/nom/down CMS_scale_QCD uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

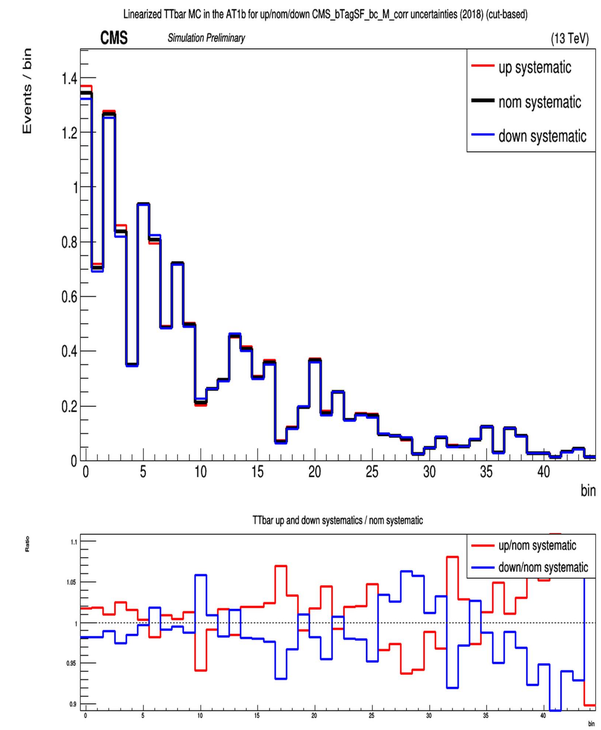

Linearized QCD MC in the AT1b for up/nom/down CMS_scale_QCD uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

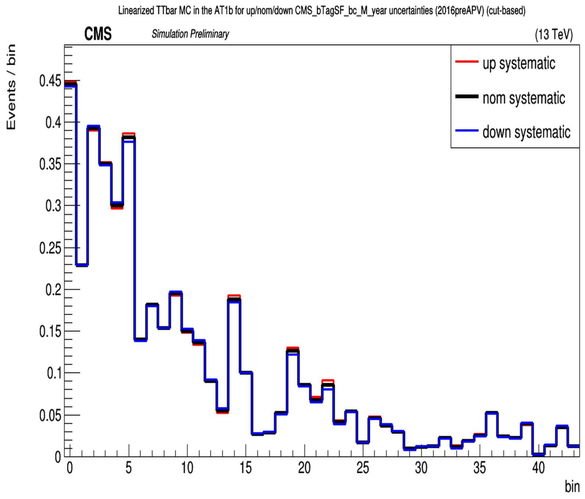

Linearized QCD MC in the AT1b for up/nom/down CMS_scale_QCD uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
QCD up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

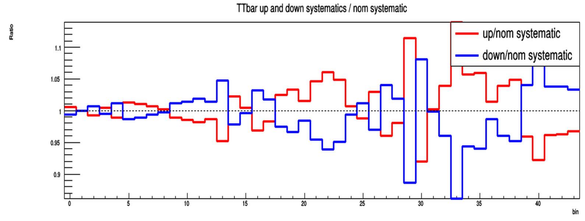

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_corr uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

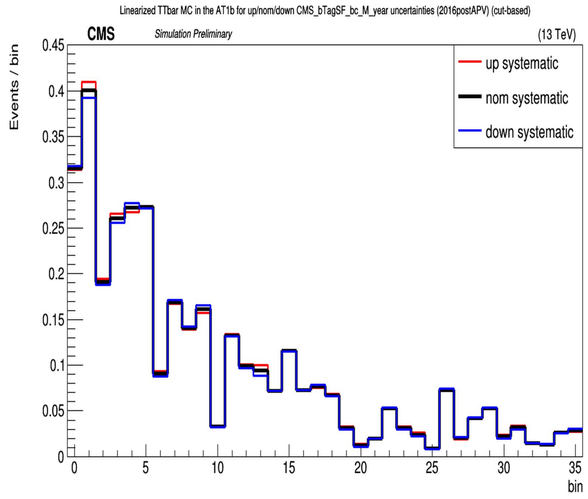

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_corr uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

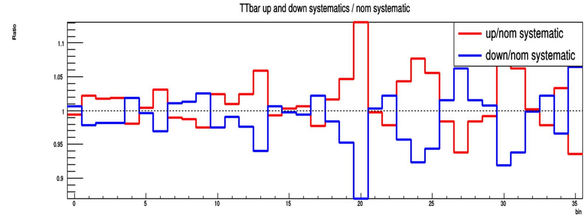

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_corr uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

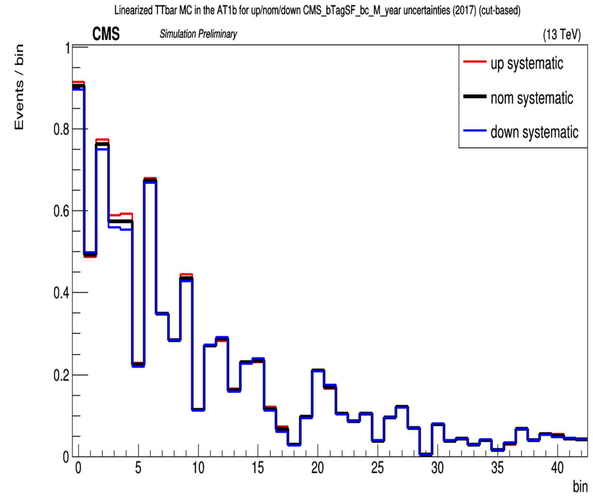

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_corr uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

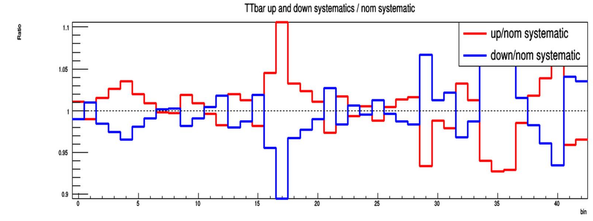

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

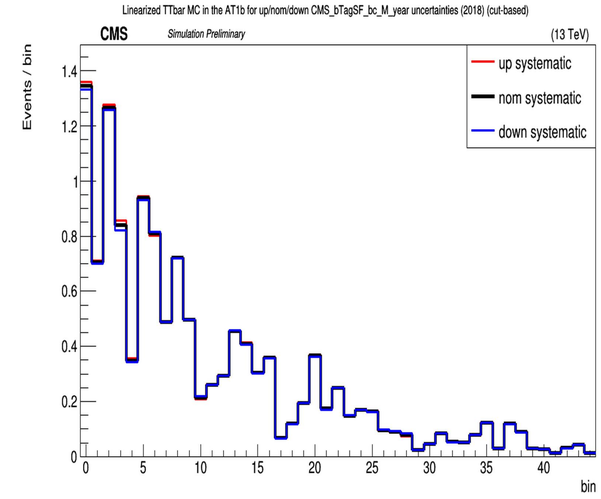

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

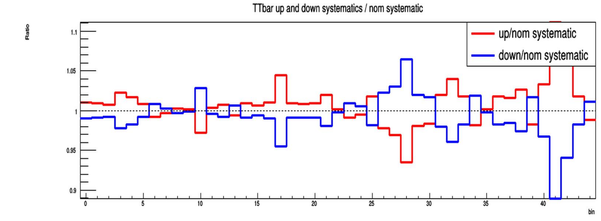

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

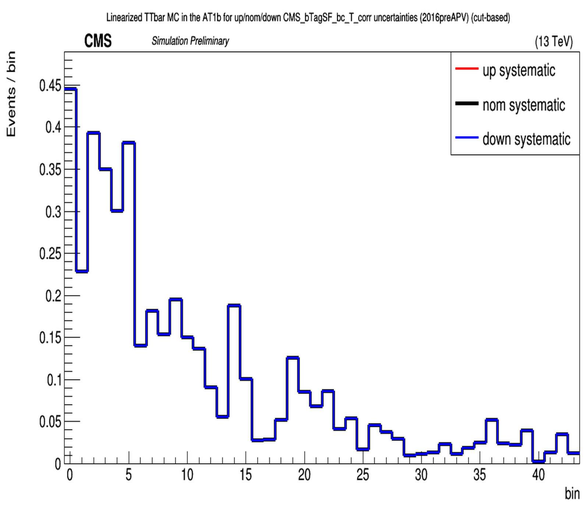

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

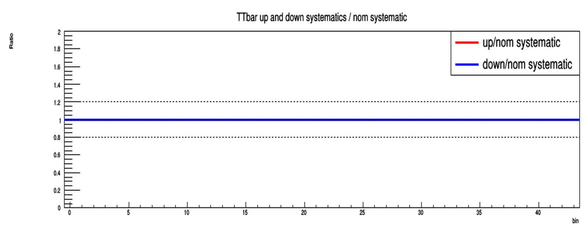

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

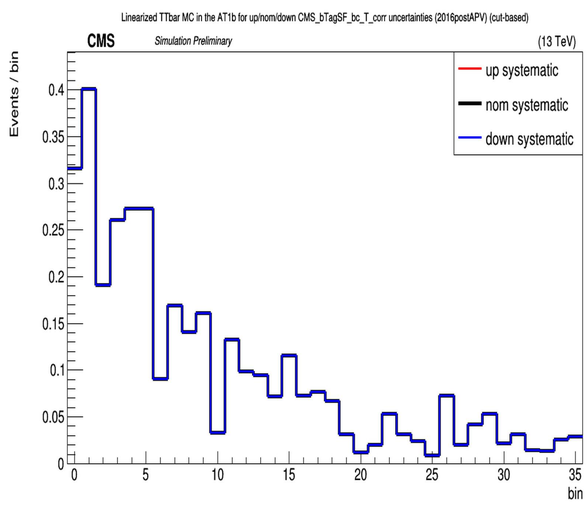

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

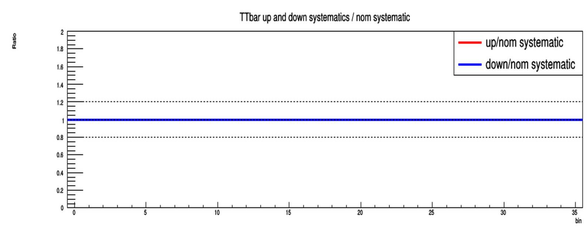

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_bc_M_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

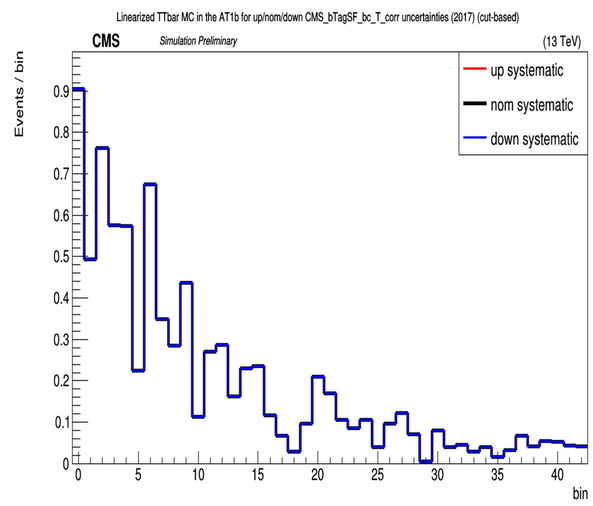

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

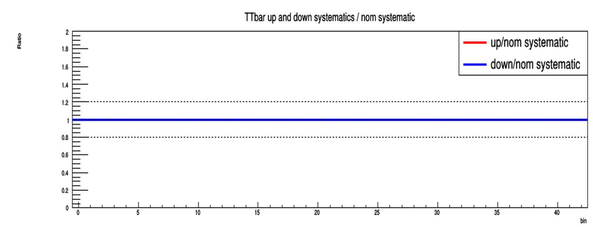

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_corr uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

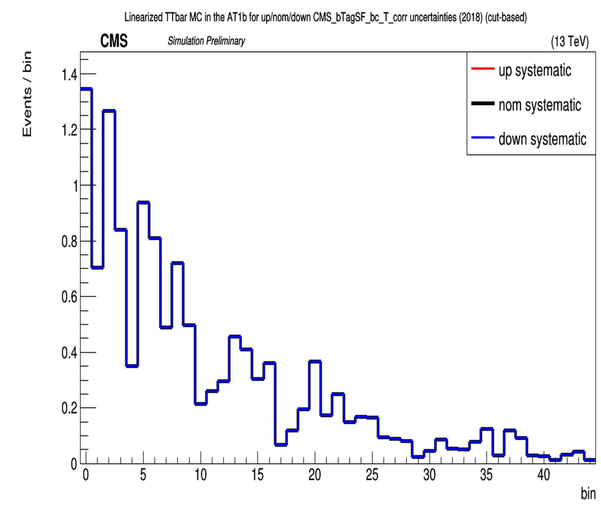

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

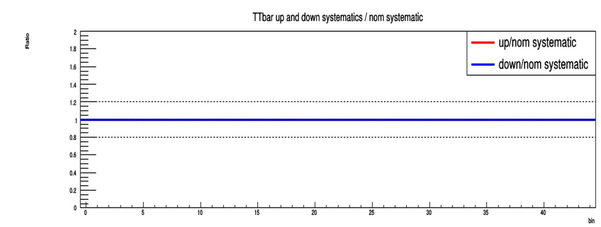

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_corr uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

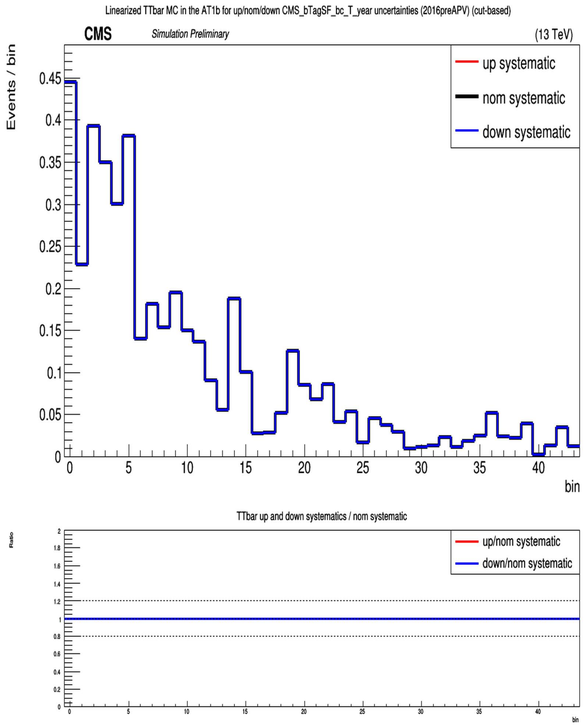

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

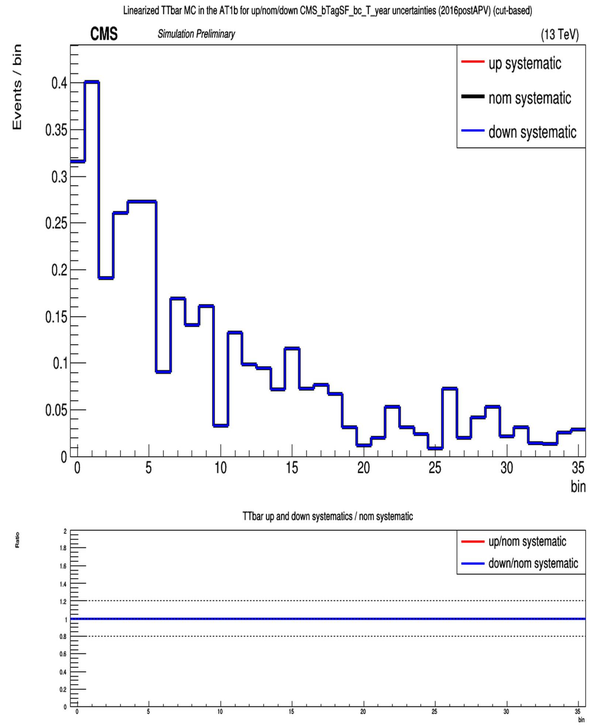

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_corr uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

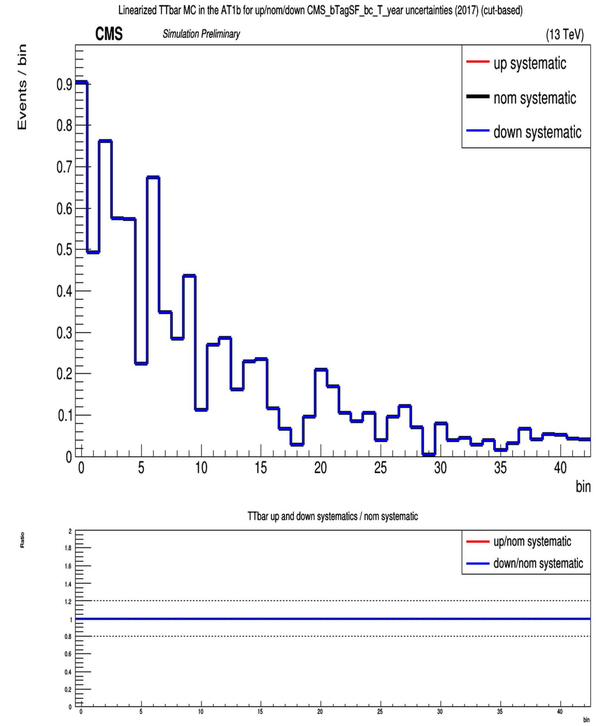

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

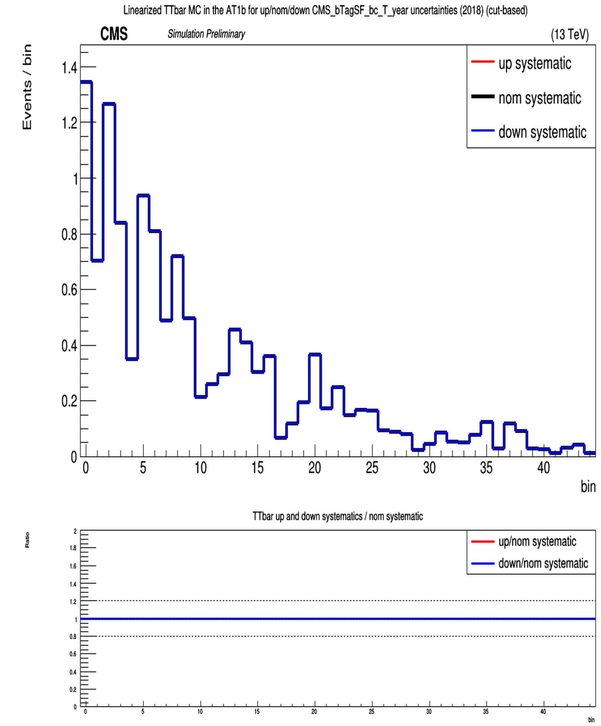

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_corr uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic

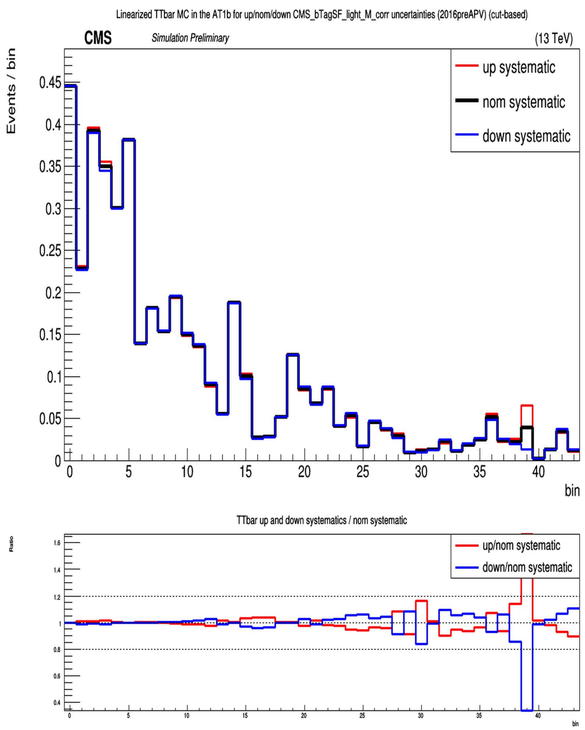

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

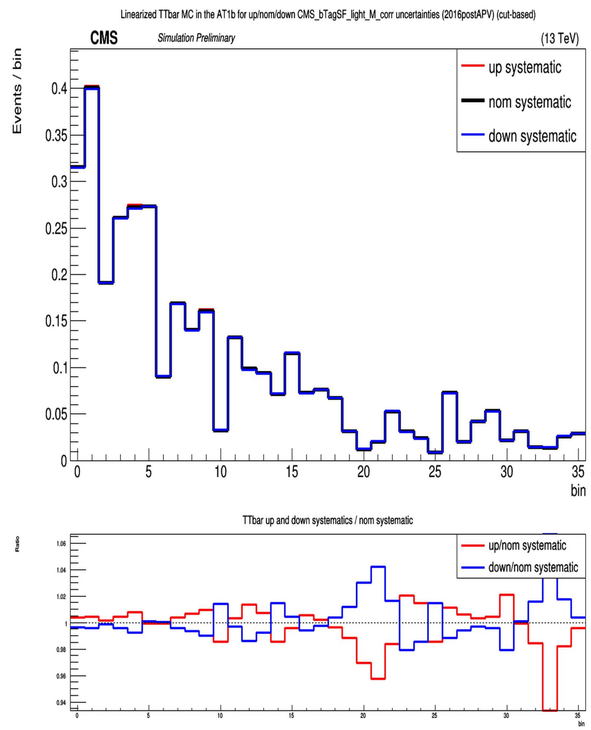

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

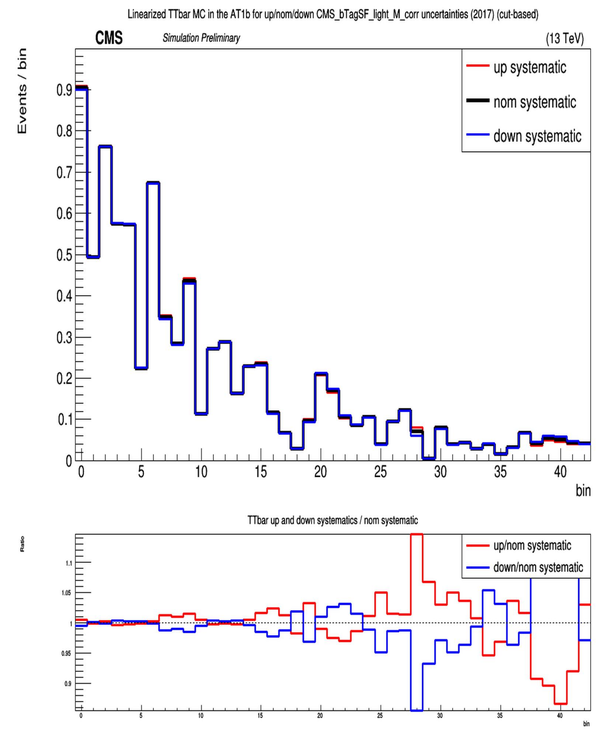

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

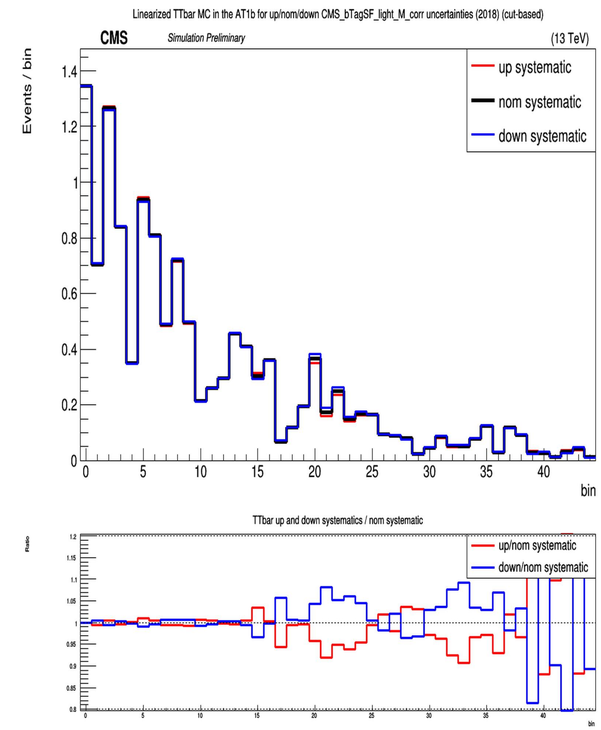

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

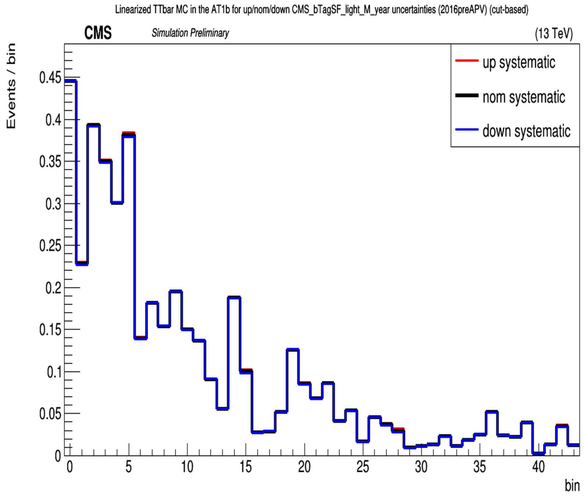

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_bc_T_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

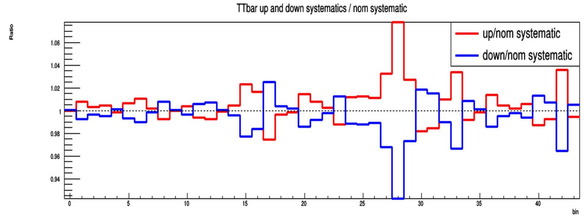

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_light_M_corr uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

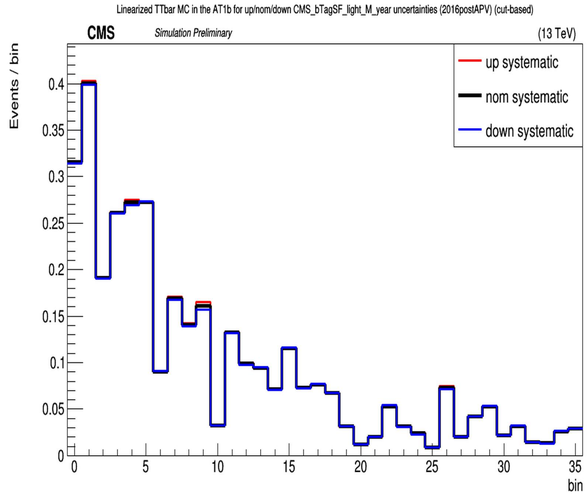

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_light_M_corr uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

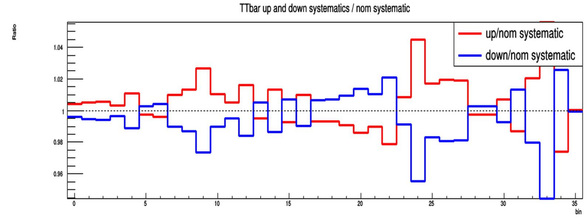

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_light_M_corr uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

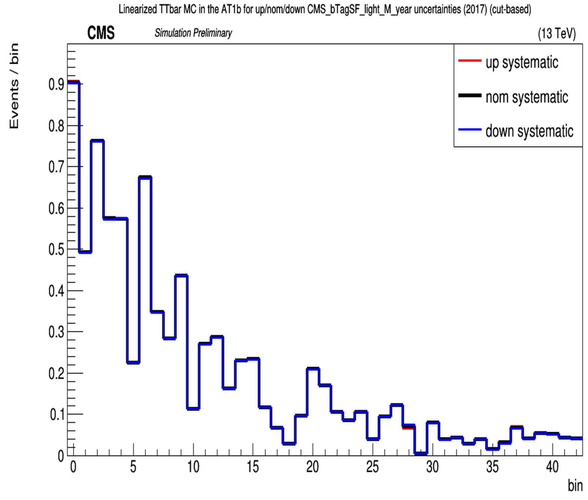

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_light_M_corr uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

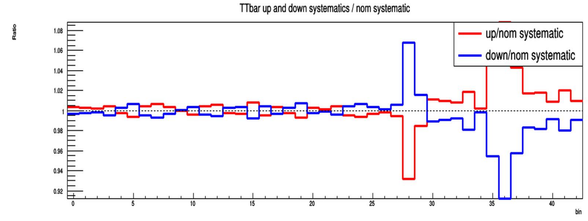

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_light_M_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

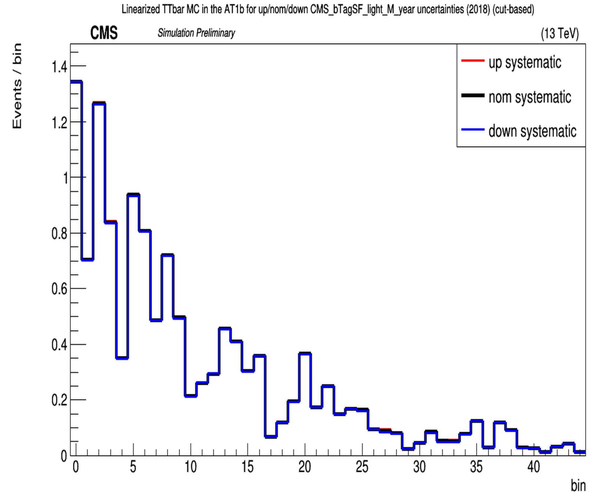

TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

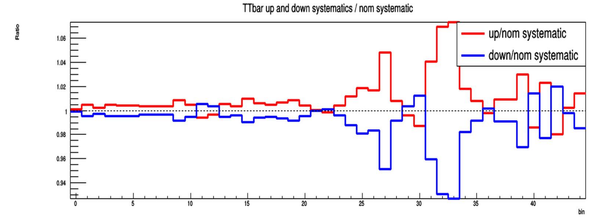

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_light_M_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

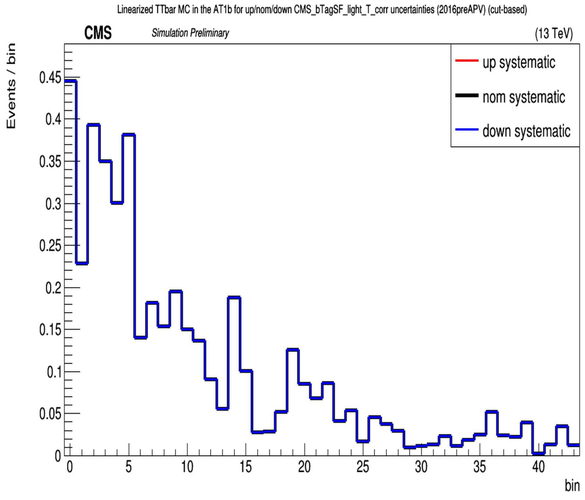

TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

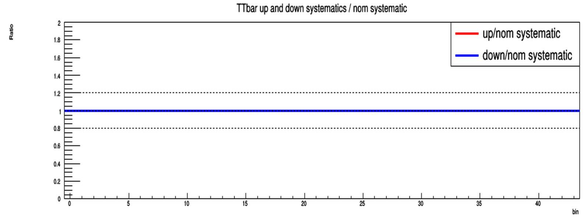

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_light_M_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

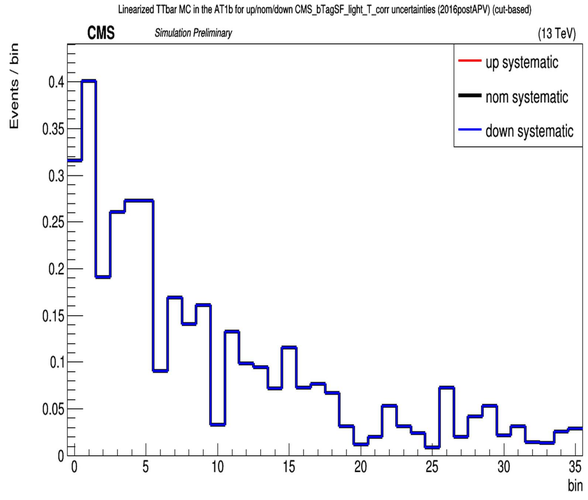

TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

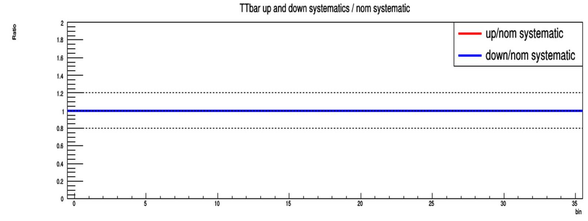

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_light_M_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

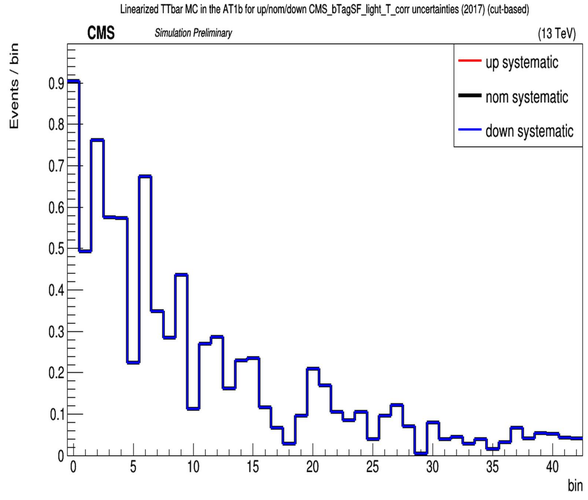

TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

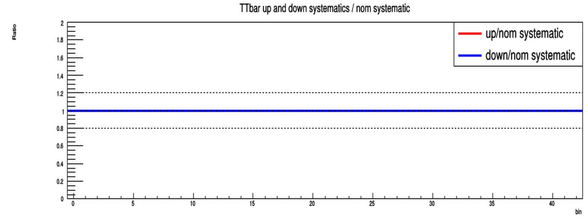

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_light_T_corr uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

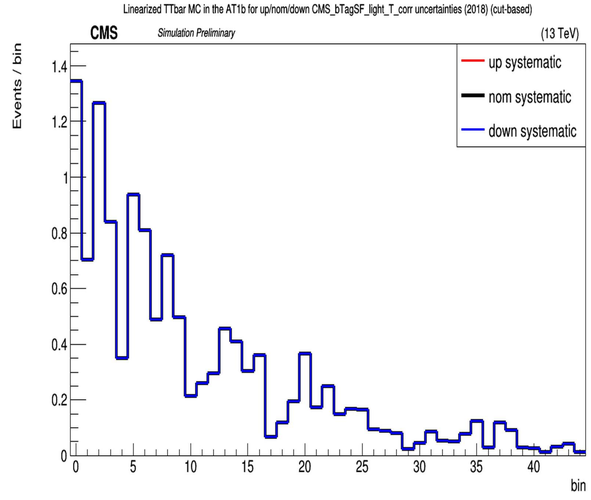

TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

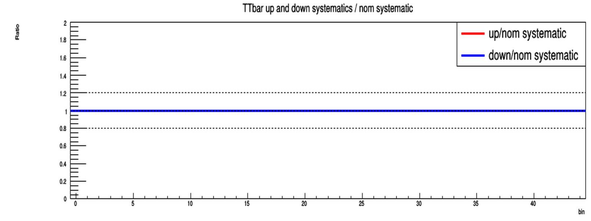

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_light_T_corr uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

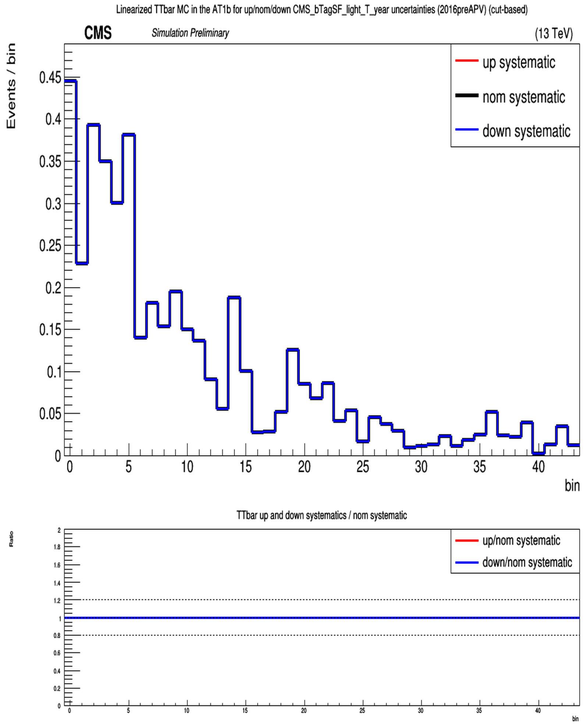

TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

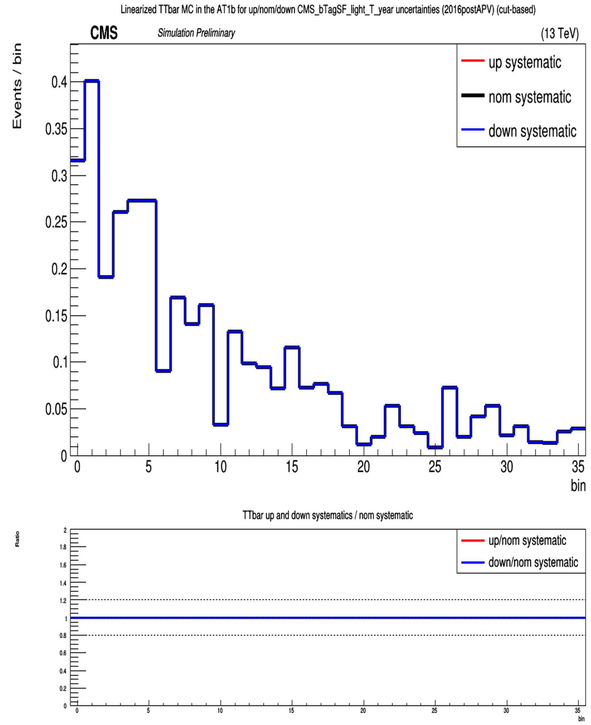

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_light_T_corr uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

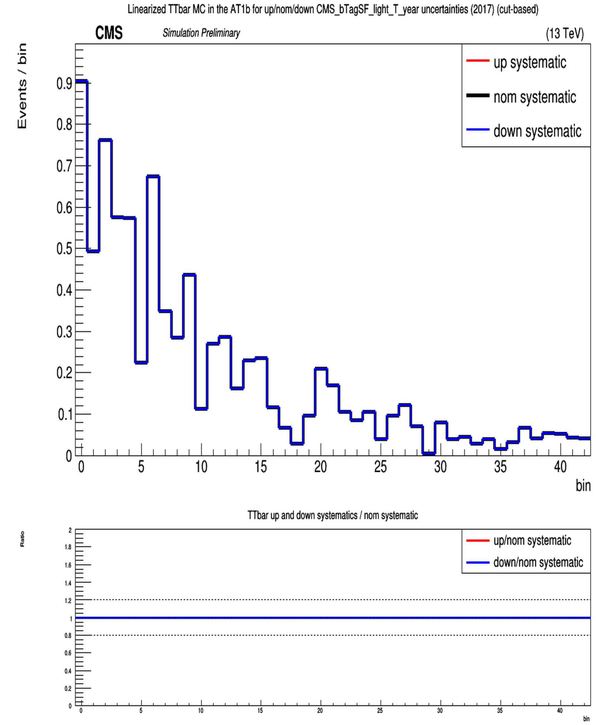

TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

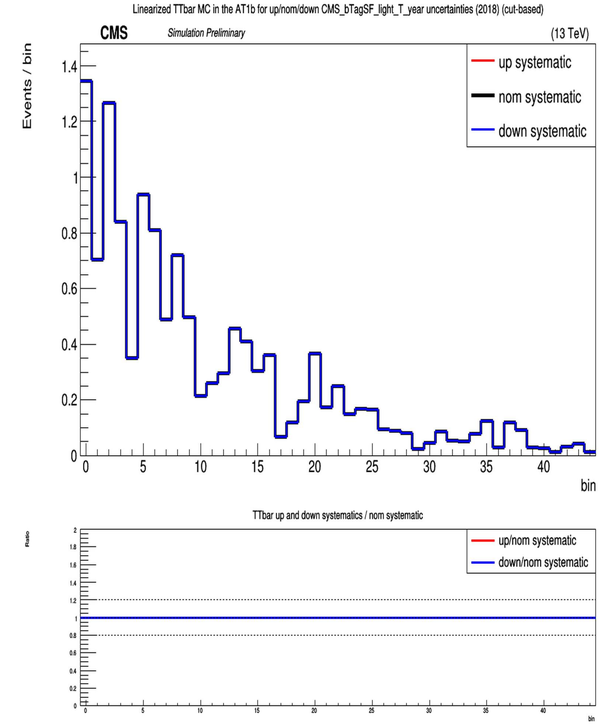

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_light_T_corr uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

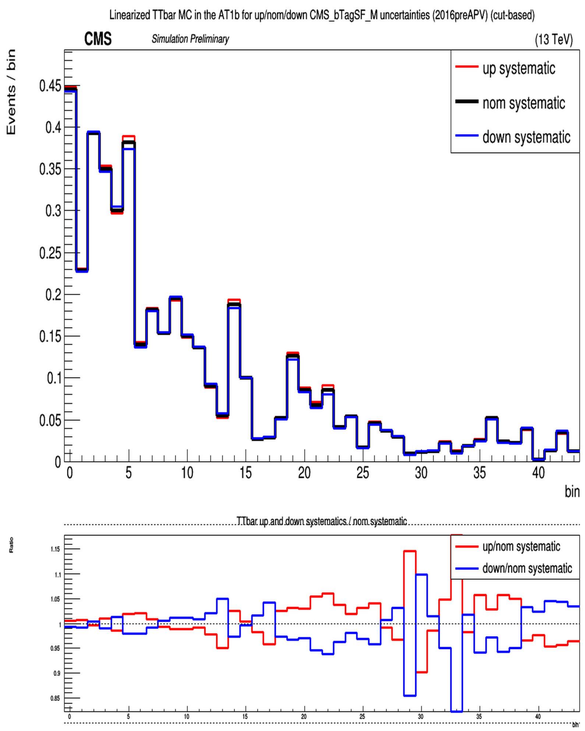

TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

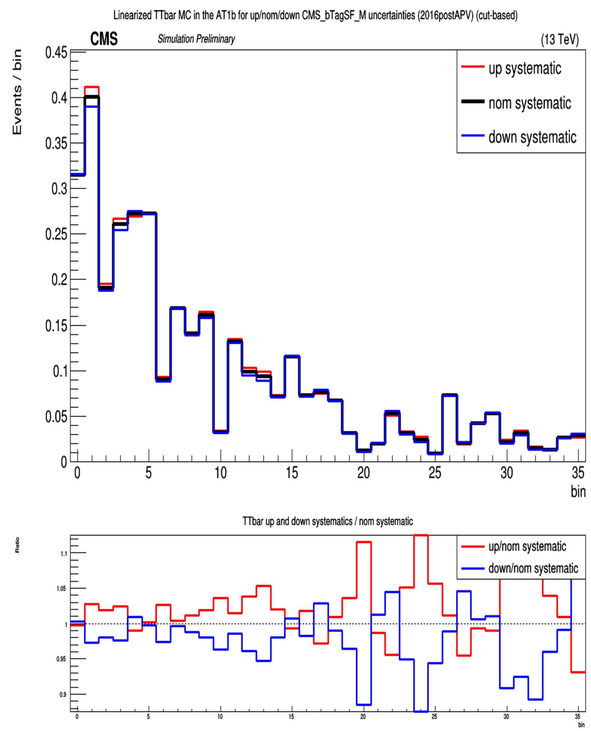

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_light_T_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

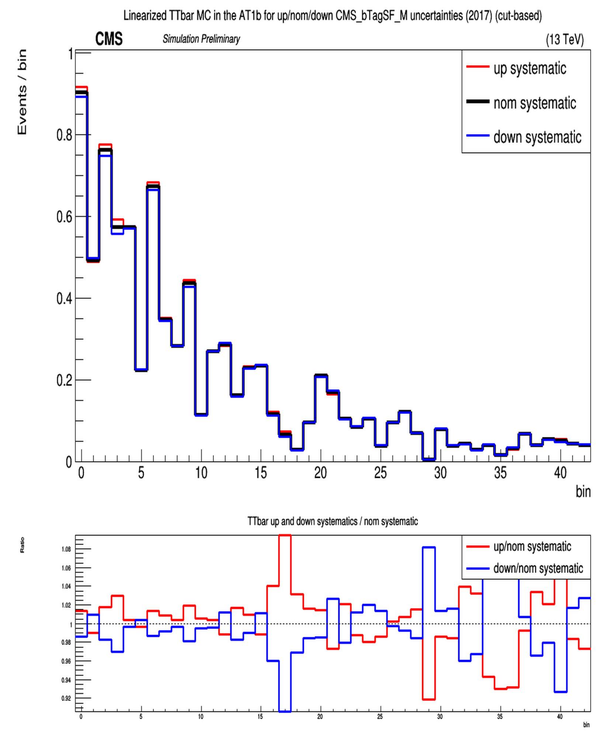

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_light_T_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

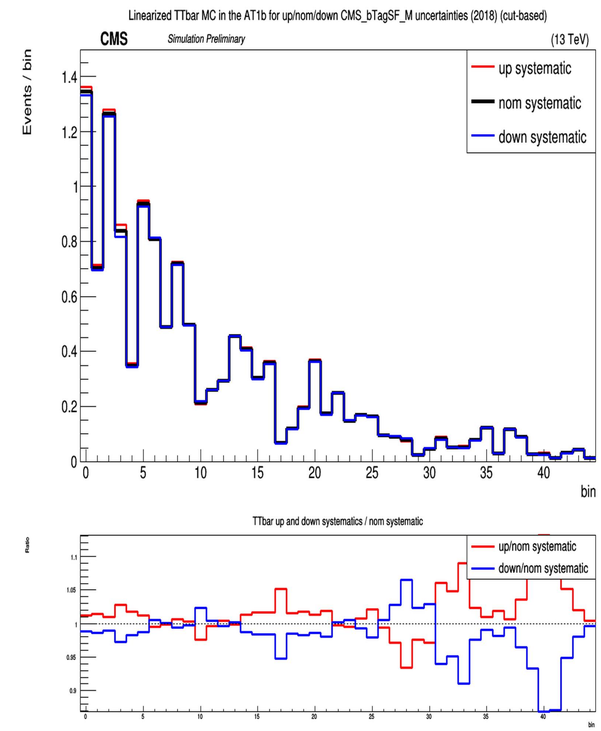

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_light_T_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

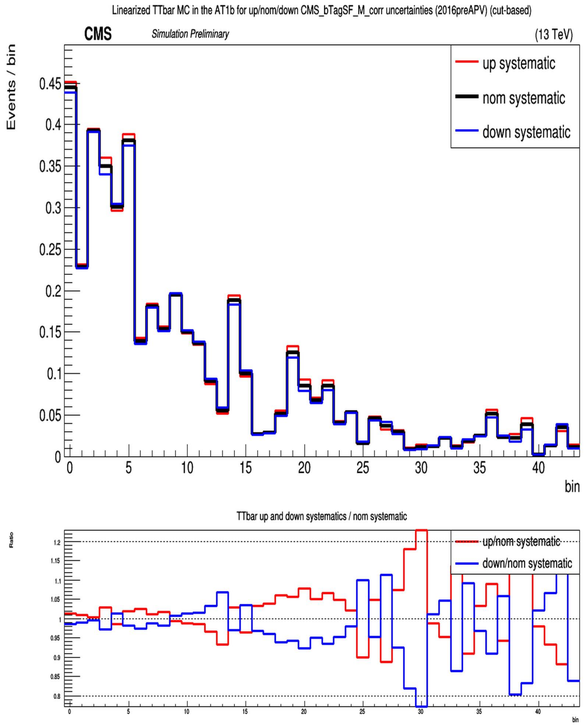

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_light_T_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

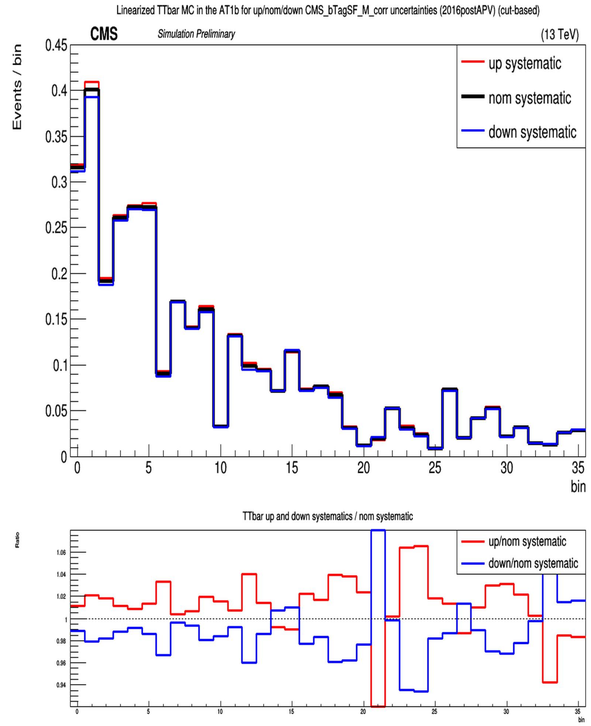

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_M uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

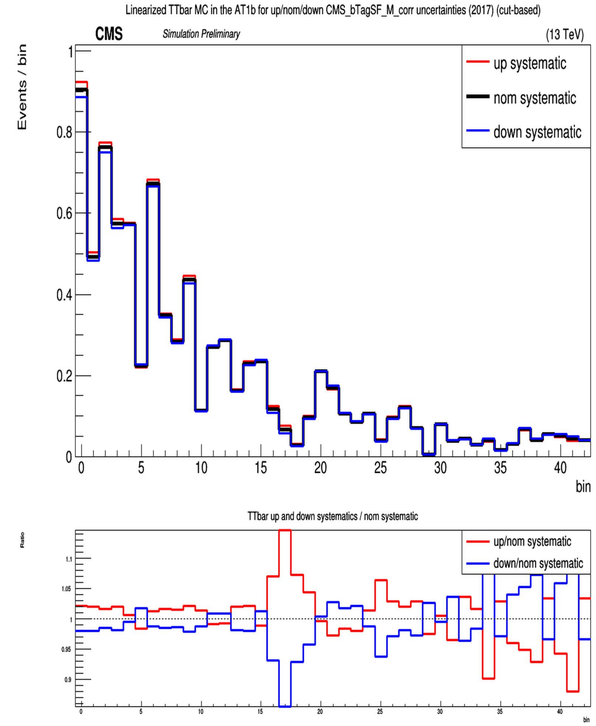

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_M uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

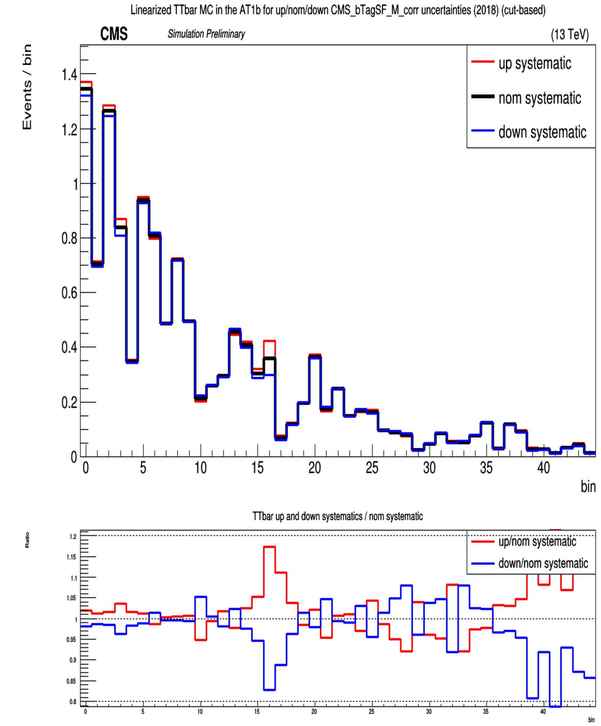

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_M uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

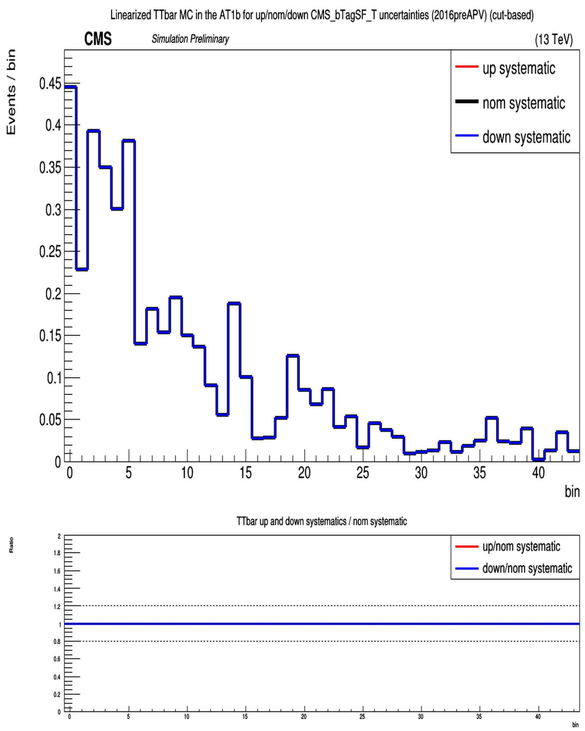

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_M uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

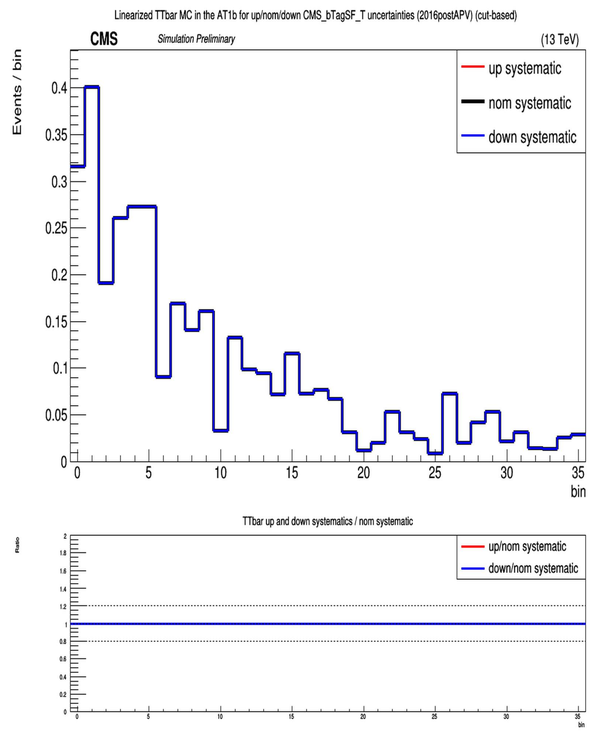

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_M_corr uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

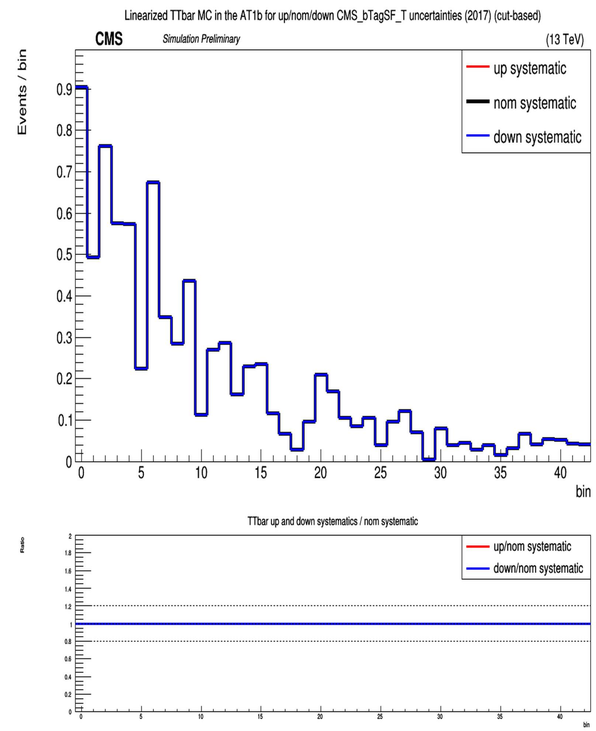

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_M_corr uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

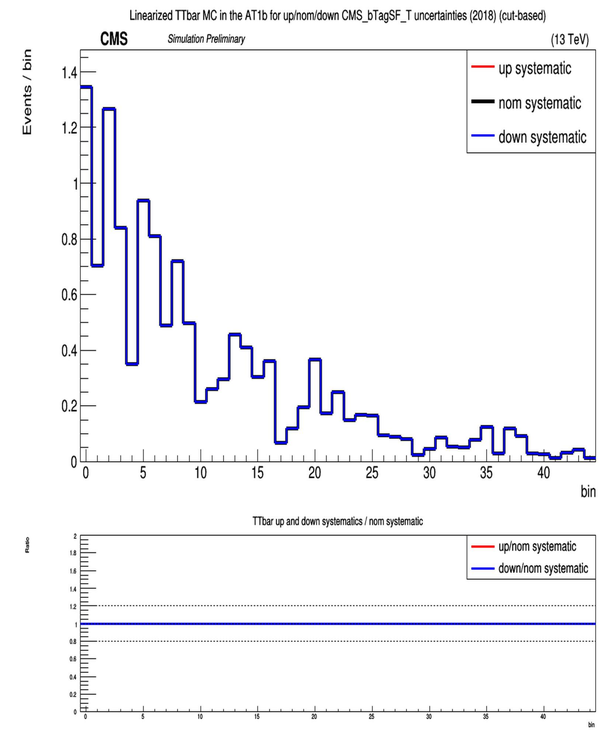

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_M_corr uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio


Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_M_corr uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

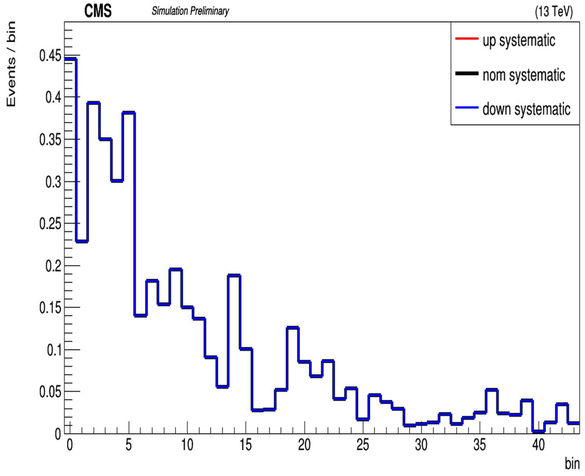

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_T uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

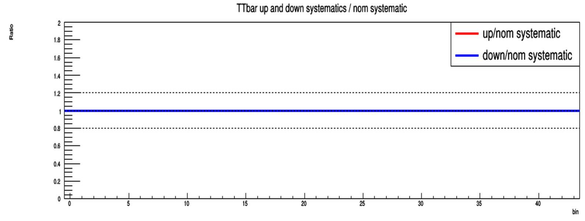

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_T uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio


Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_T uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

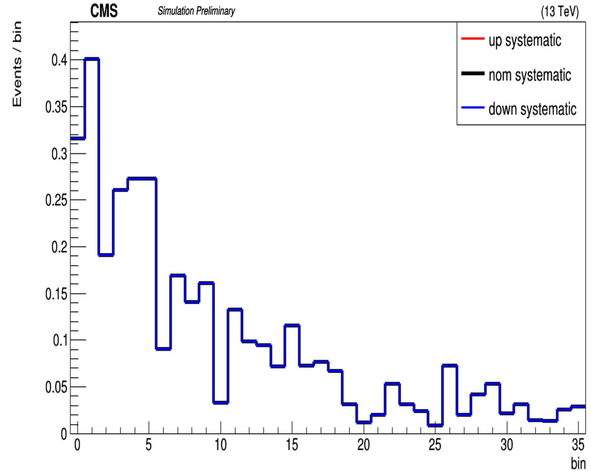

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_T uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

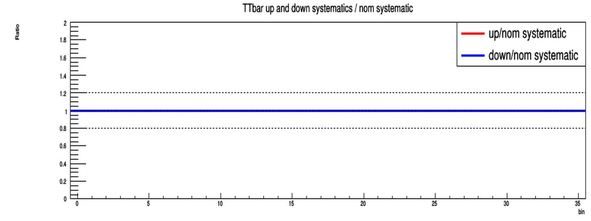
Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_T_corr uncertainties (2016preAPV) (cut-based)



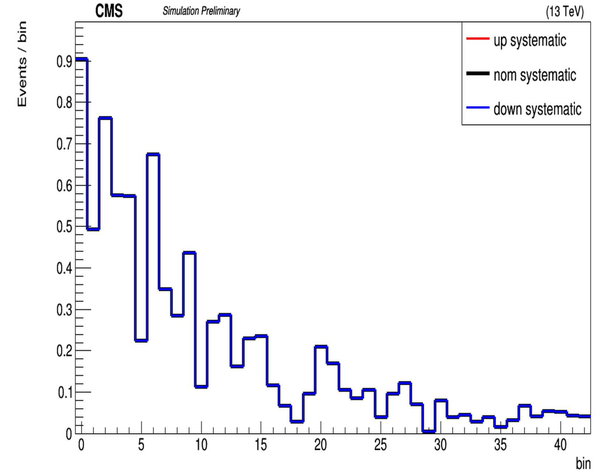



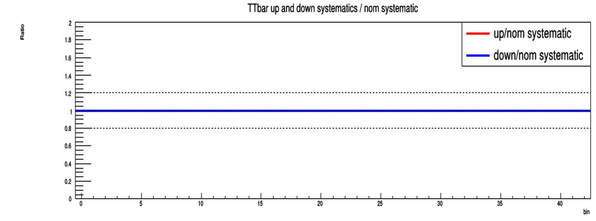

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_T_corr uncertainties (2016postAPV) (cut-based)



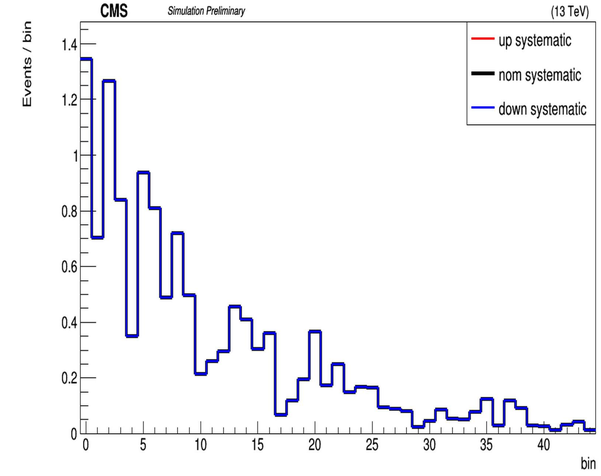



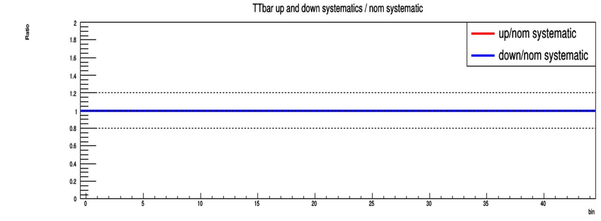

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_T_corr uncertainties (2017) (cut-based)



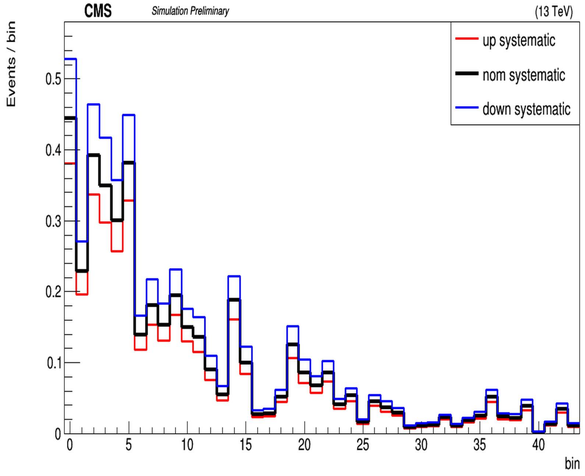



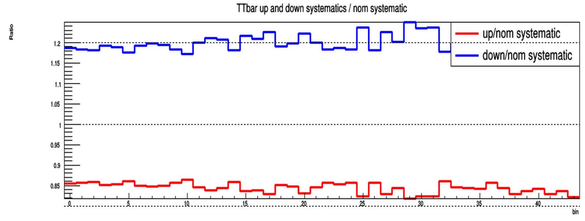

Linearized TTbar MC in the AT1b for up/nom/down CMS_bTagSF_T_corr uncertainties (2018) (cut-based)



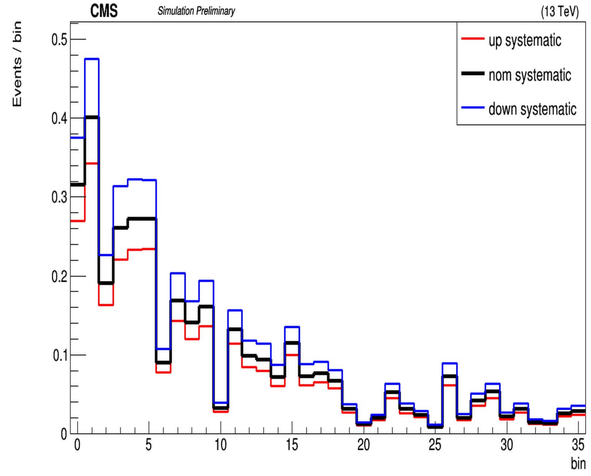



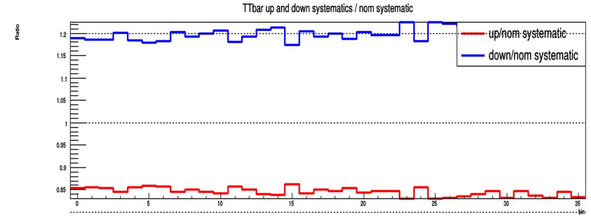

Linearized TTbar MC in the AT1b for up/nom/down CMS_fact_TTbar uncertainties (2016preAPV) (cut-based)



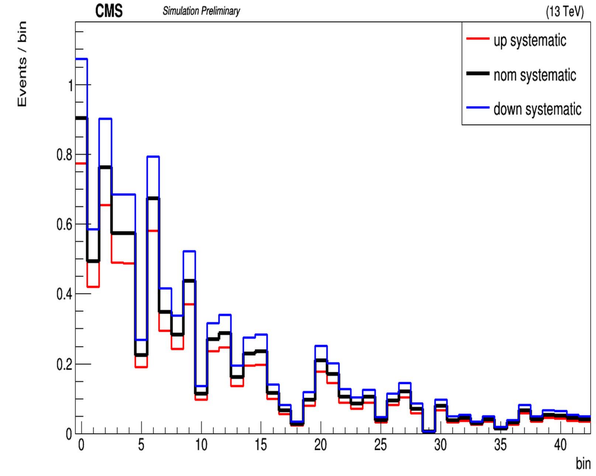



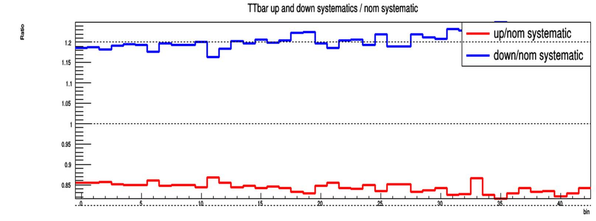

Linearized TTbar MC in the AT1b for up/nom/down CMS_fact_TTbar uncertainties (2016postAPV) (cut-based)



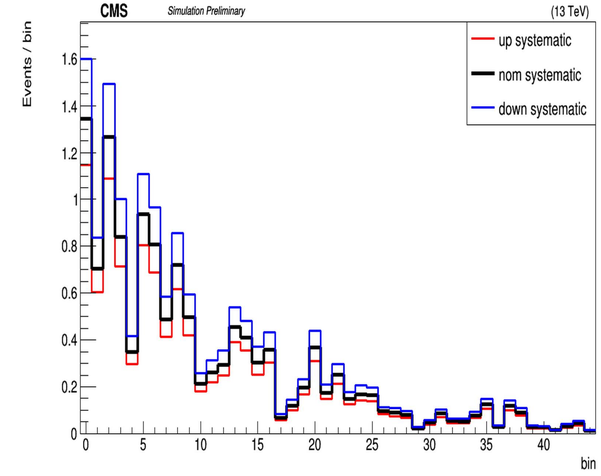



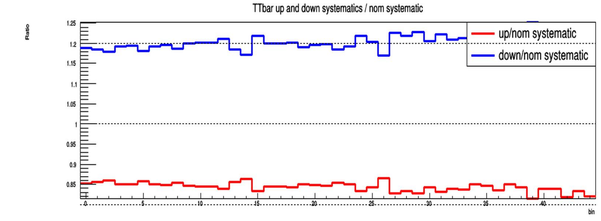

Linearized TTbar MC in the AT1b for up/nom/down CMS_fact_TTbar uncertainties (2017) (cut-based)

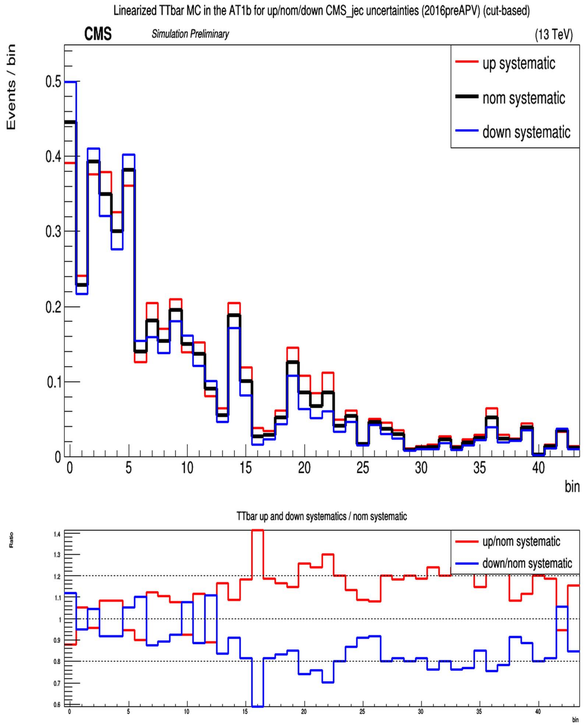


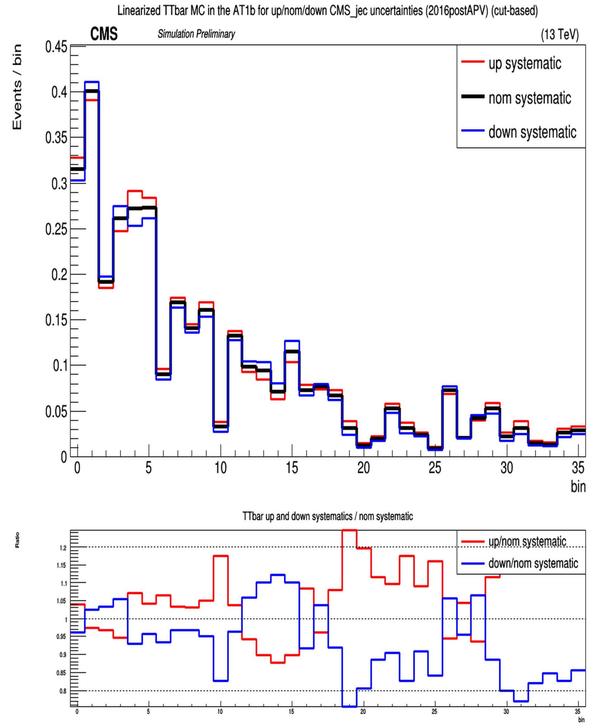



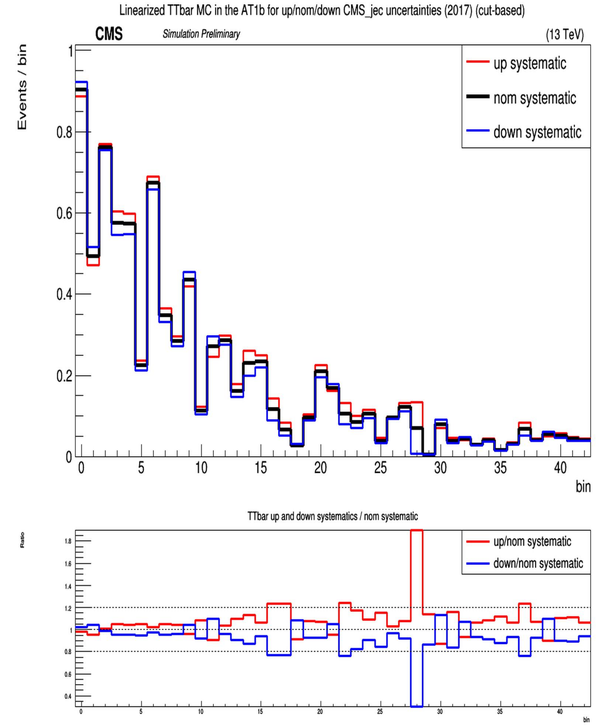

Linearized TTbar MC in the AT1b for up/nom/down CMS_fact_TTbar uncertainties (2018) (cut-based)

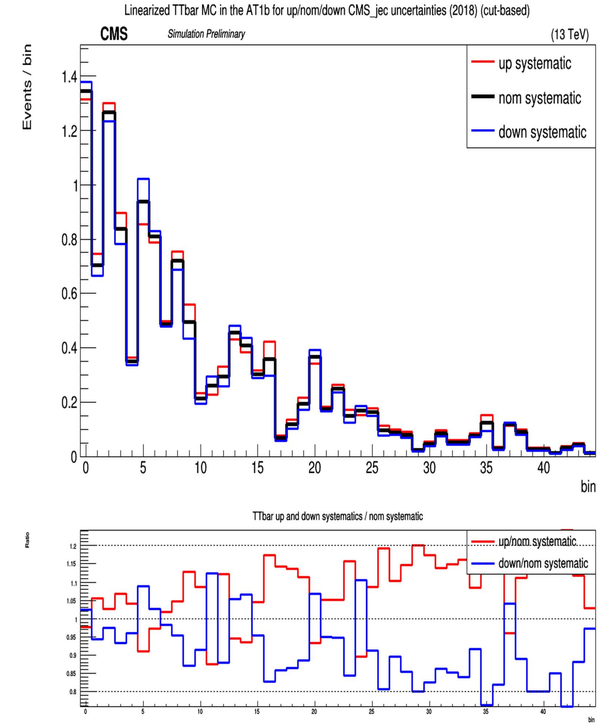


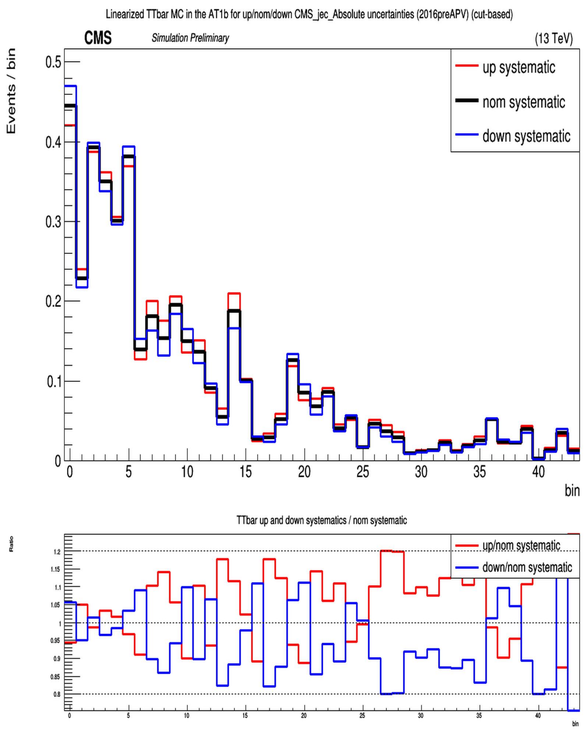



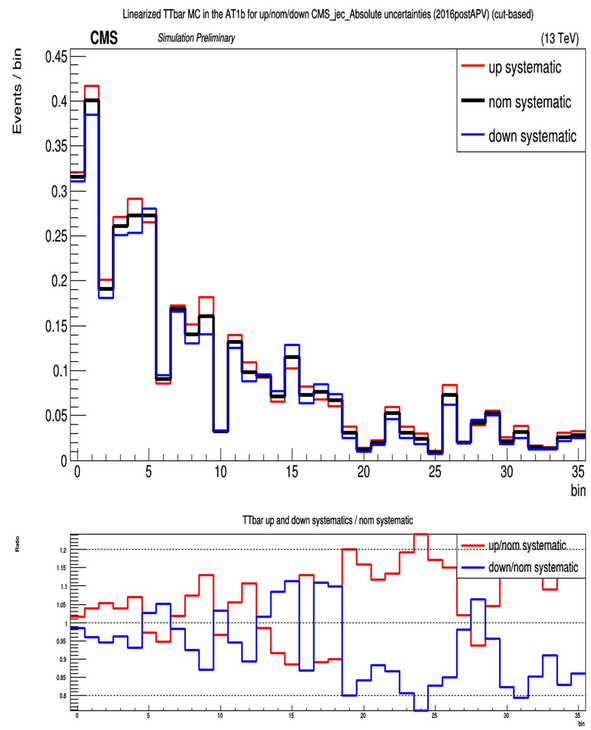

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

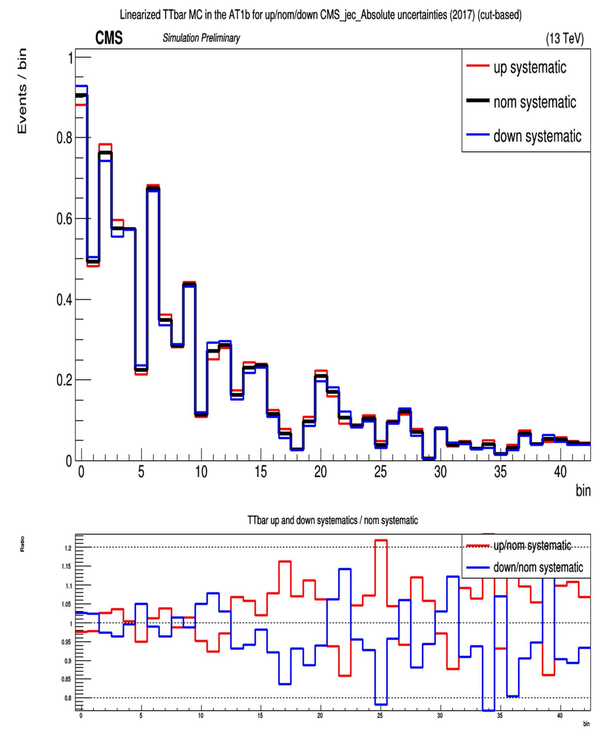

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

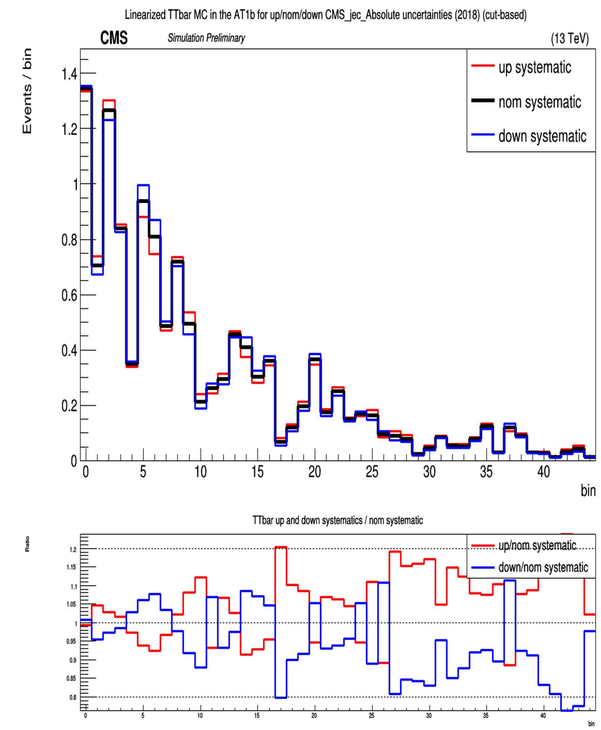

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

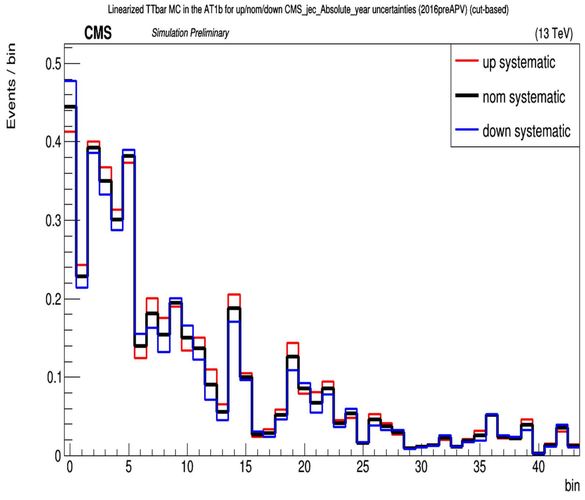

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

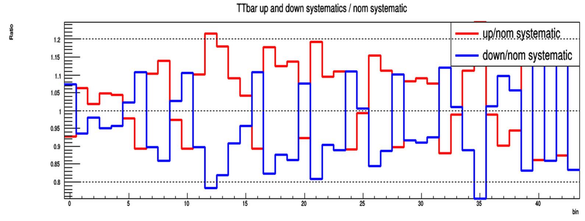

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_Absolute uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

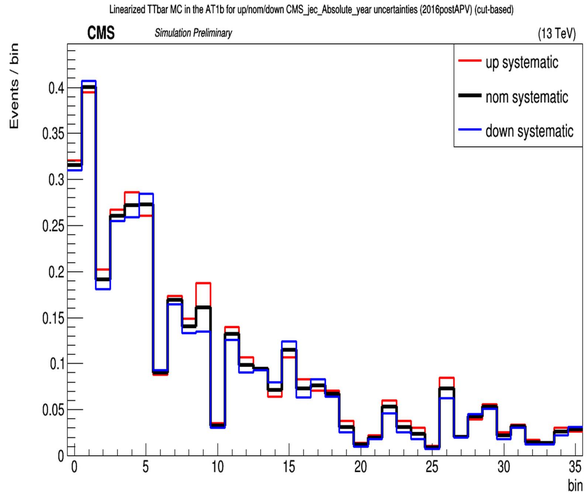

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_Absolute uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

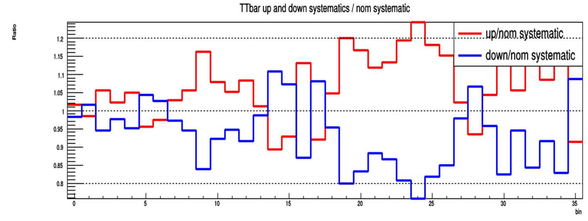

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_Absolute uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

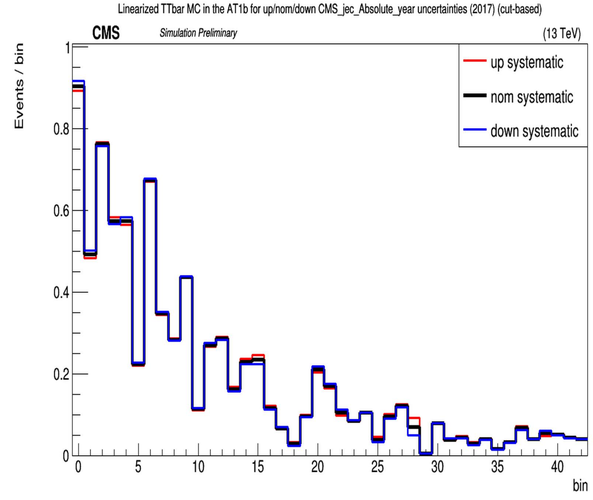

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_Absolute uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

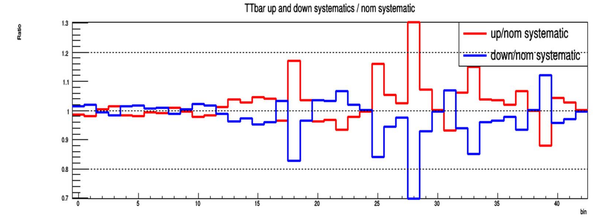

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_Absolute_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

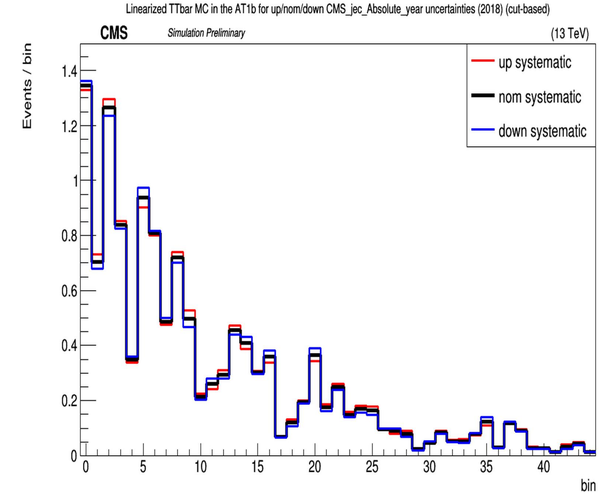

TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

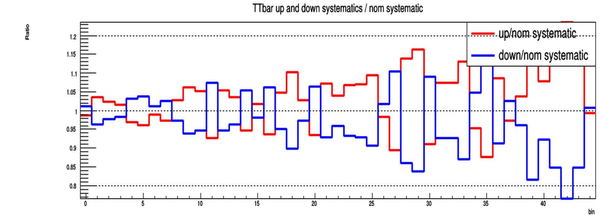

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_Absolute_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

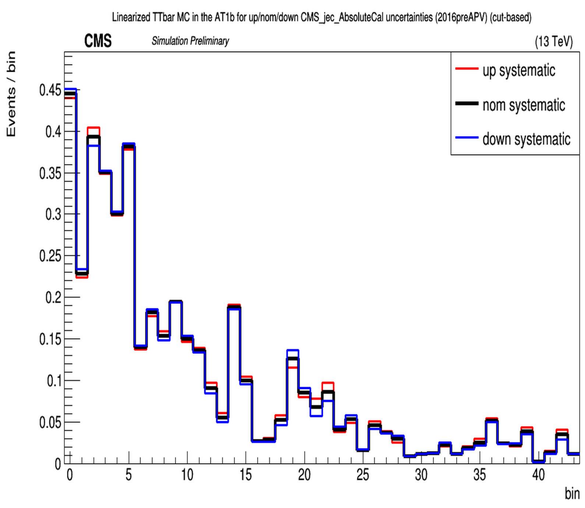

TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

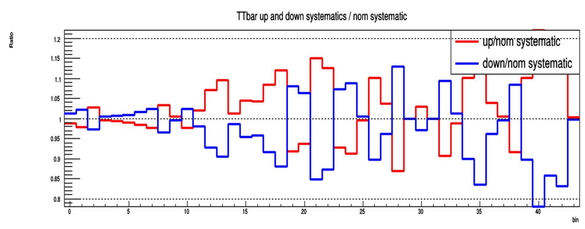

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_Absolute_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

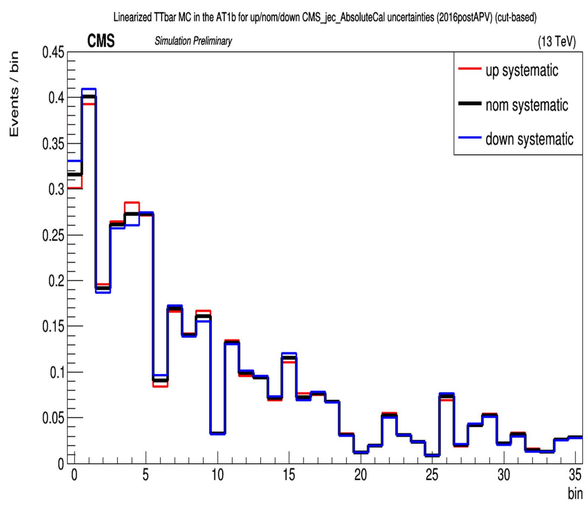

TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

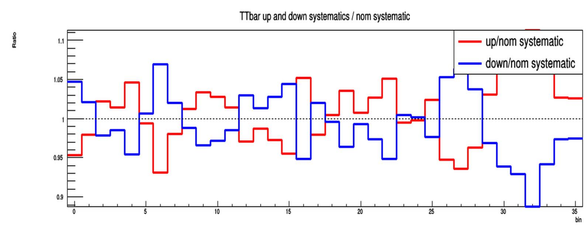

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_Absolute_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

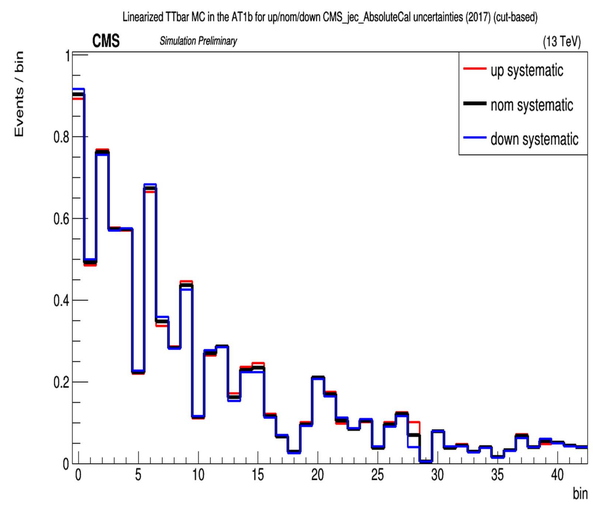

TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

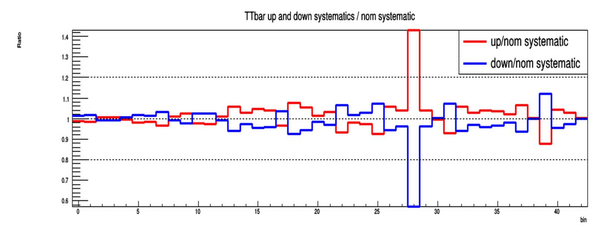

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsoluteCal uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

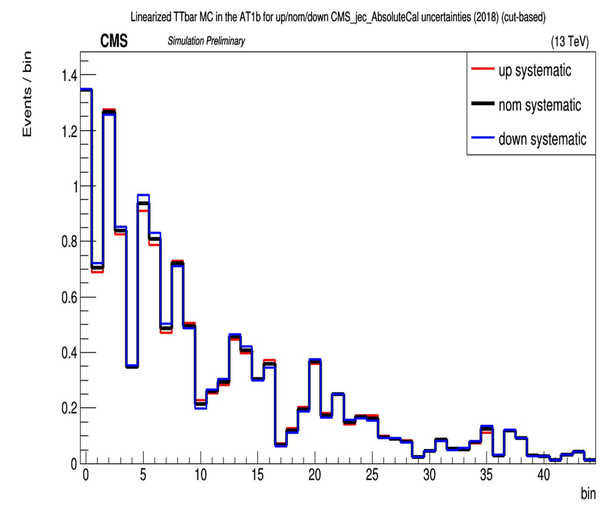

TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

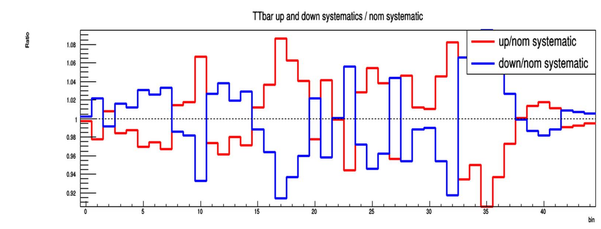

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsoluteCal uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

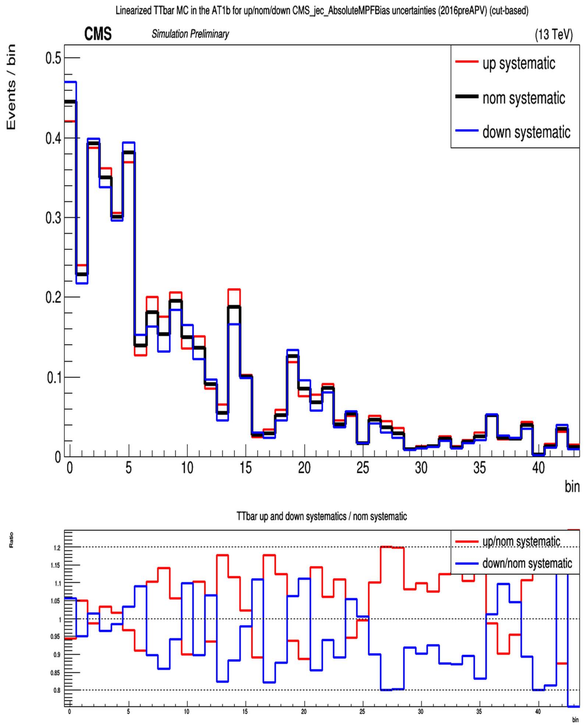

TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

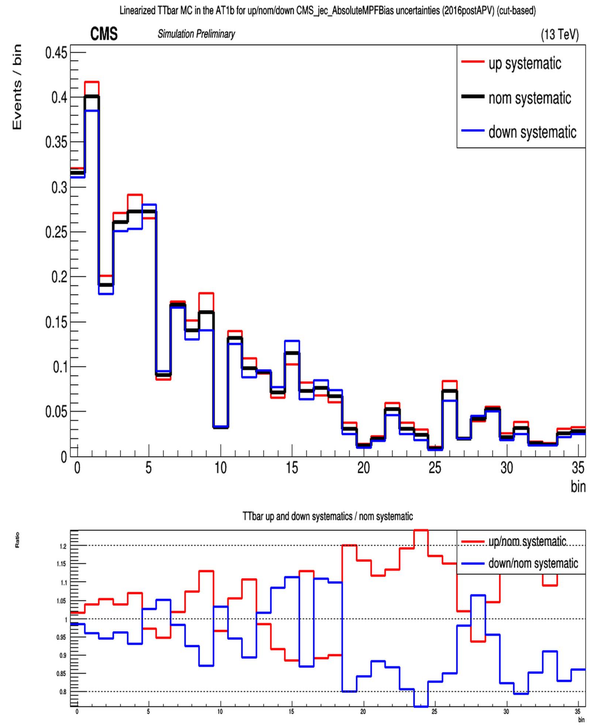

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsoluteCal uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

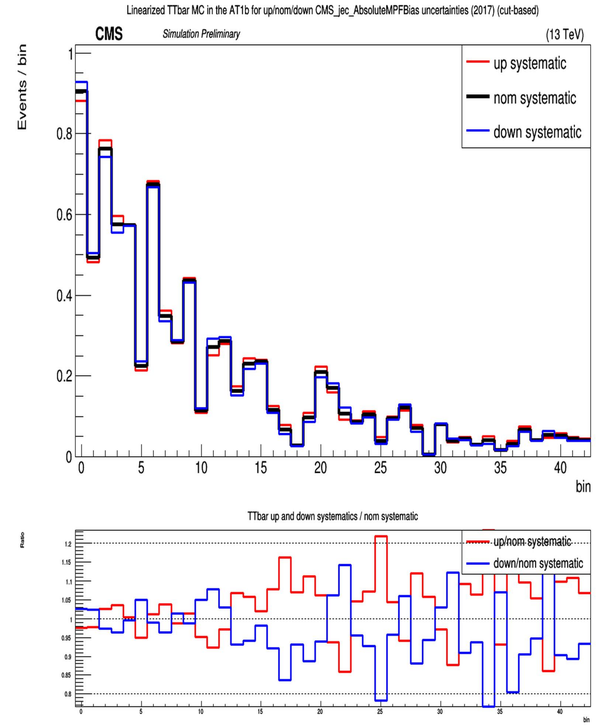

TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

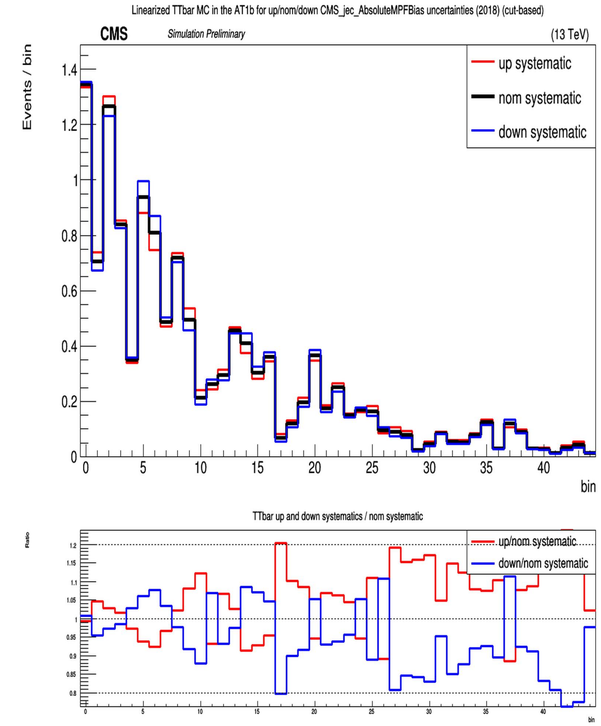

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsoluteCal uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin

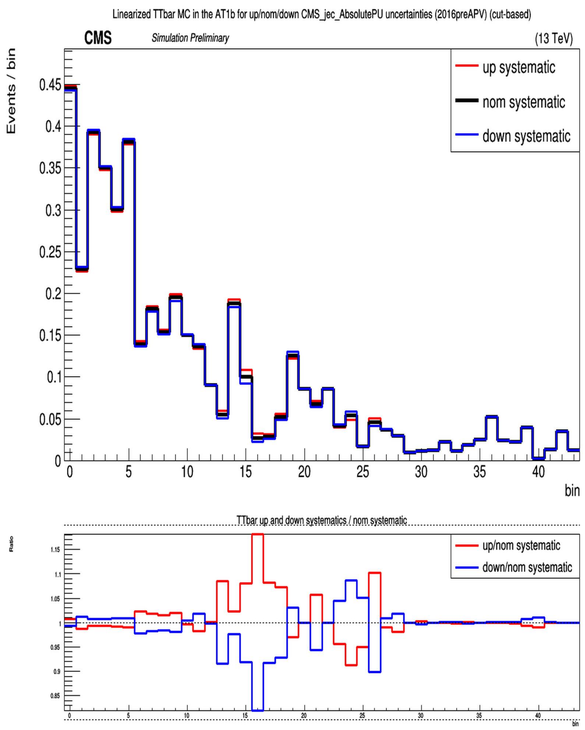

TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio
bin

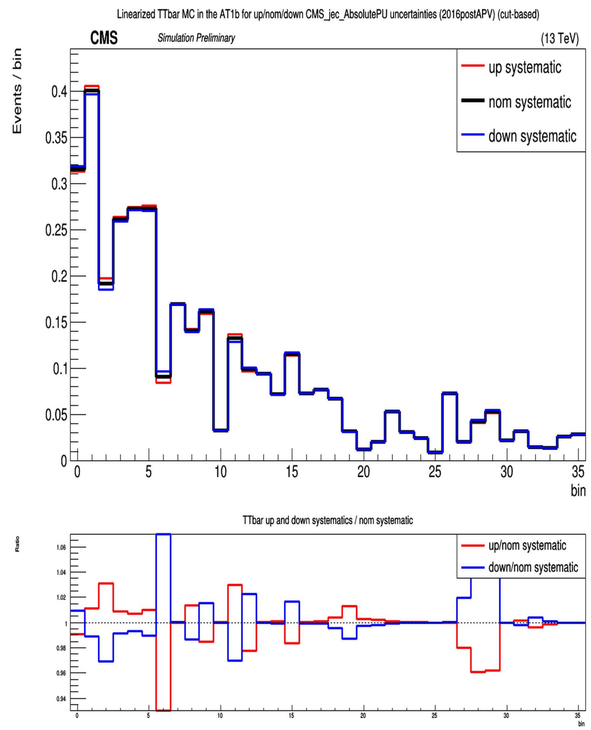

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsoluteMPFBias uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

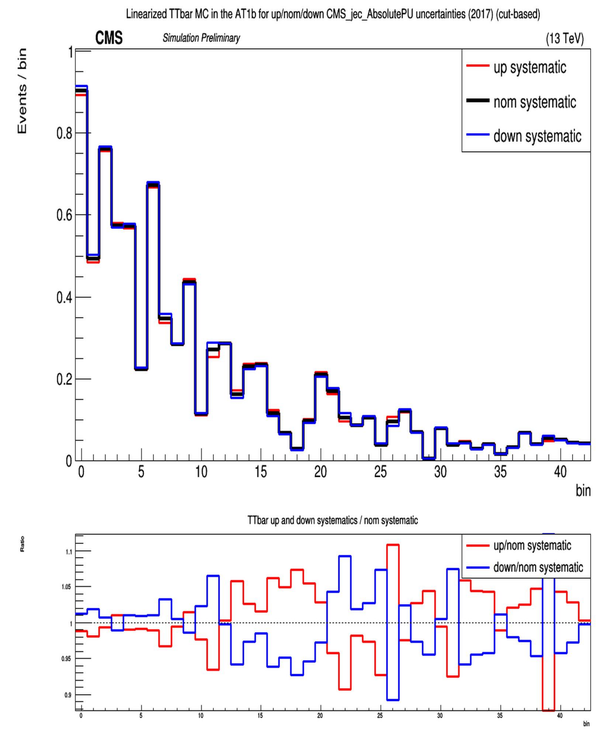

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsoluteMPFBias uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

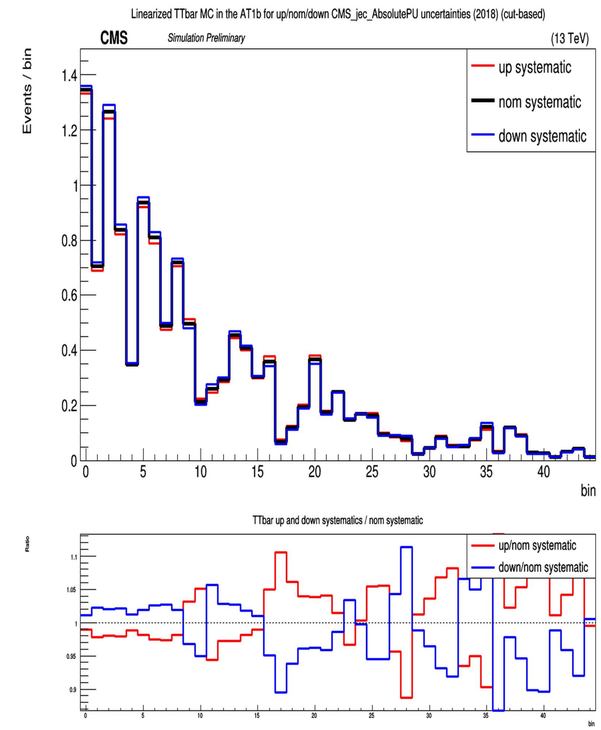

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsoluteMPFBias uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

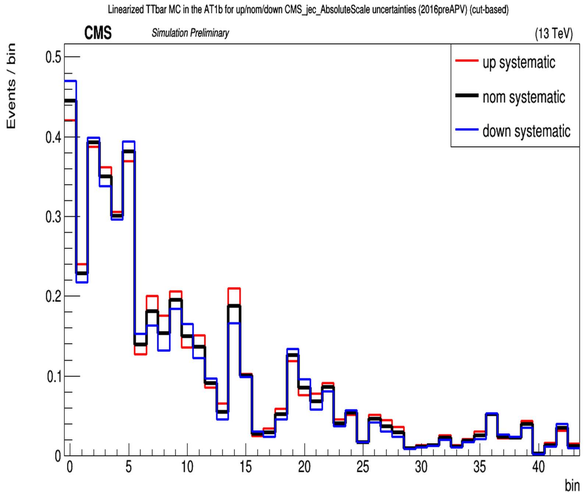

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsoluteMPFBias uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

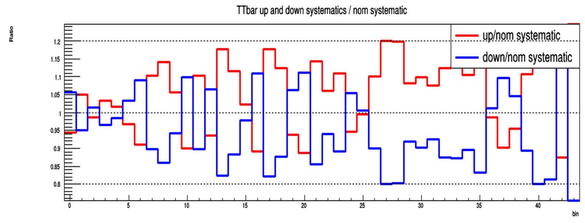

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsolutePU uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

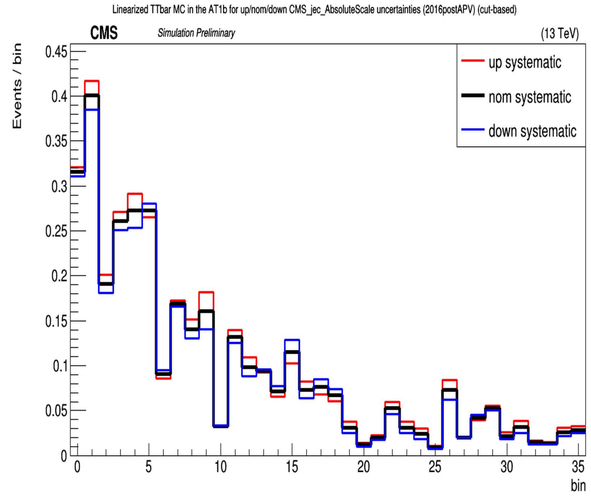

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsolutePU uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

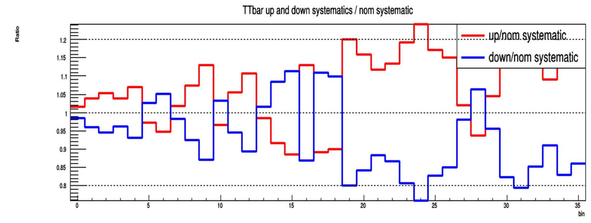

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsolutePU uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

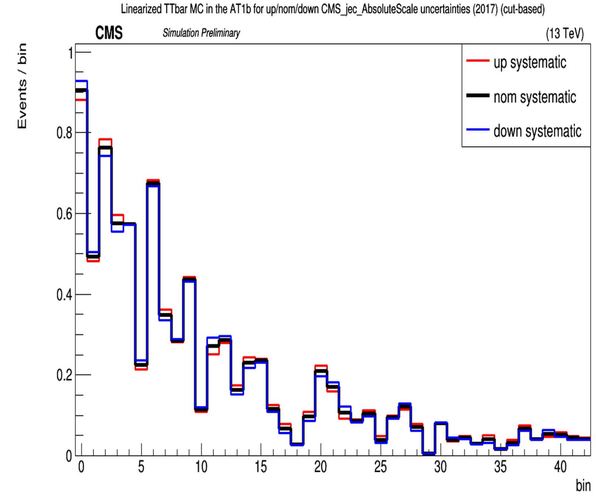

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsolutePU uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

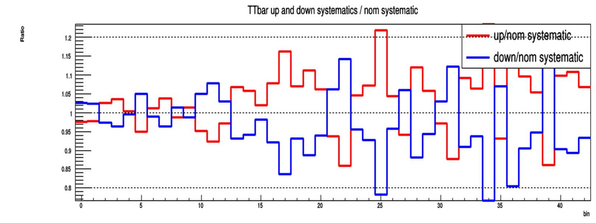

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsoluteScale uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

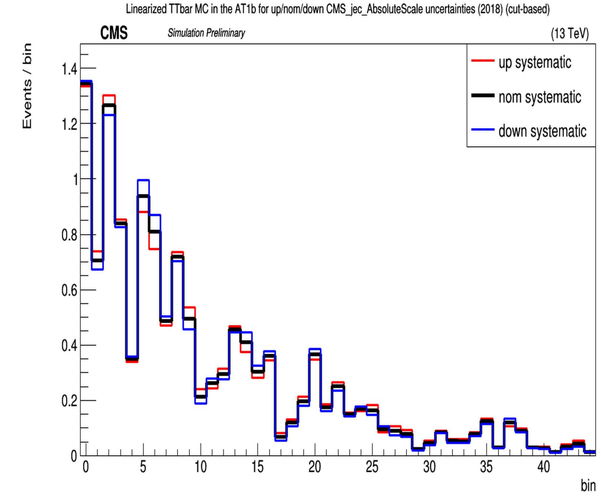

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

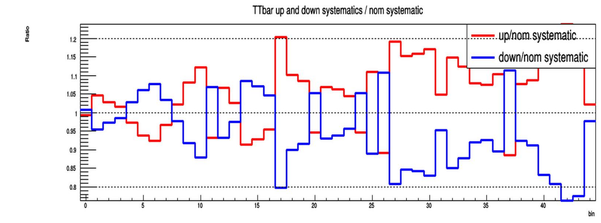

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsoluteScale uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

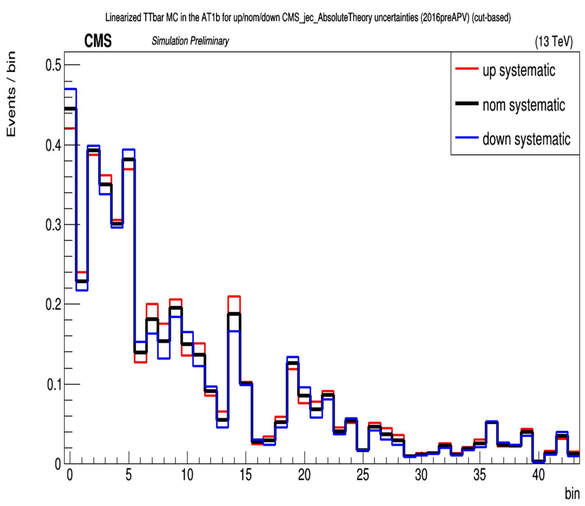

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

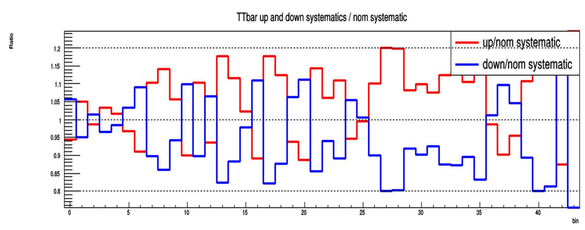

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsoluteScale uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

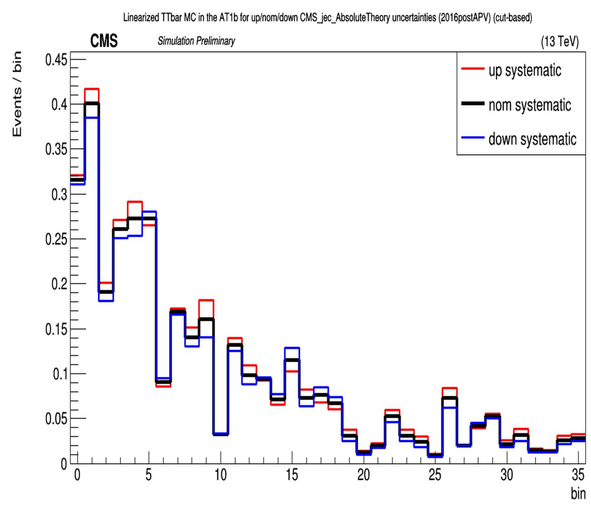

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

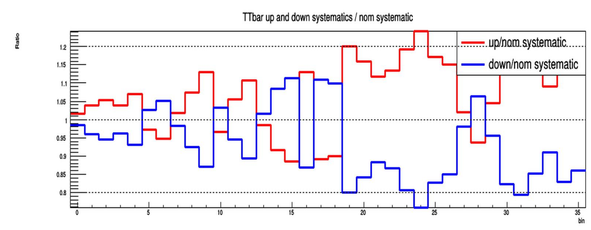

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsoluteScale uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

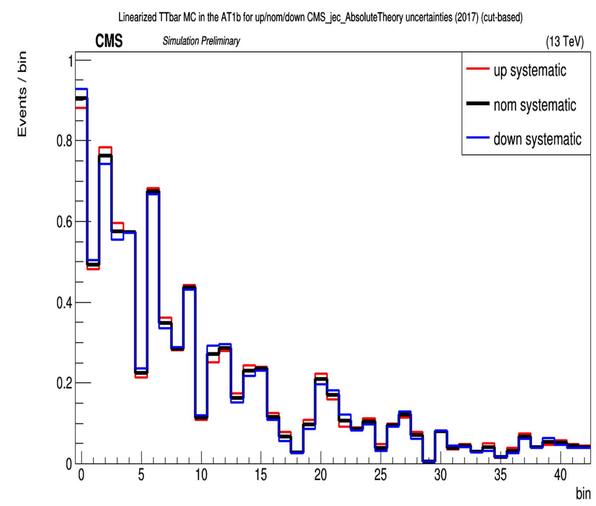

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

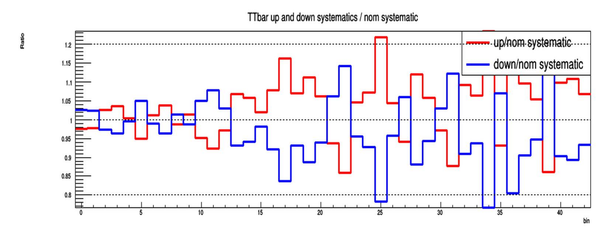

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsoluteTheory uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

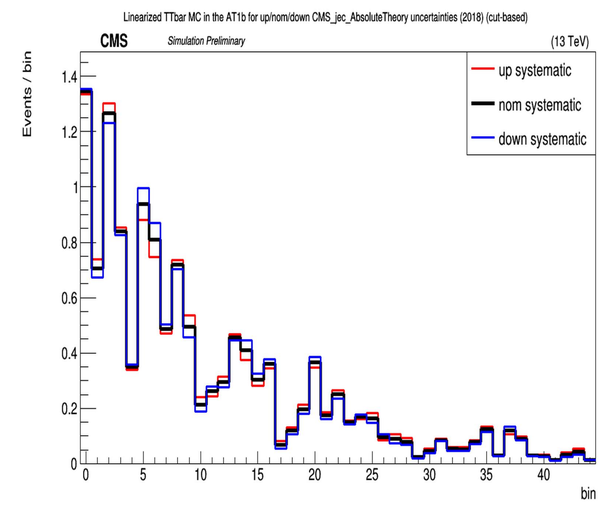

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

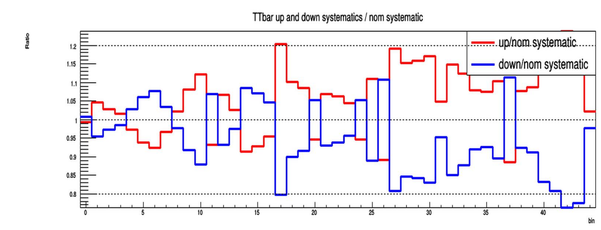

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsoluteTheory uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

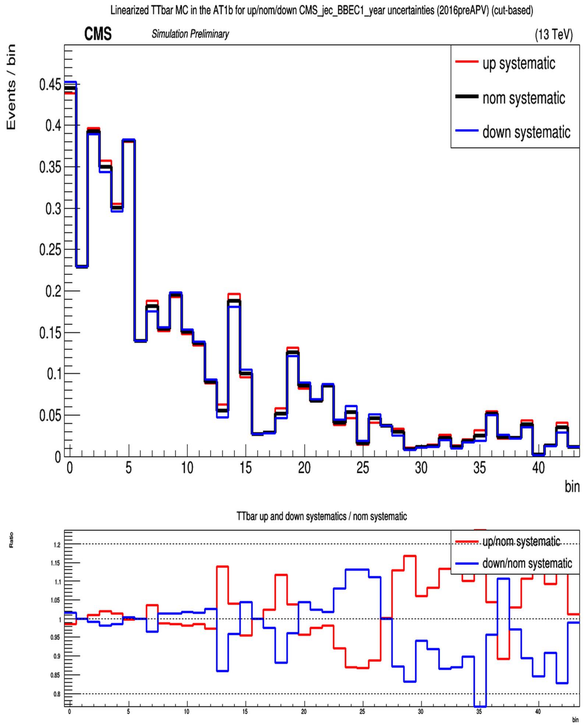

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

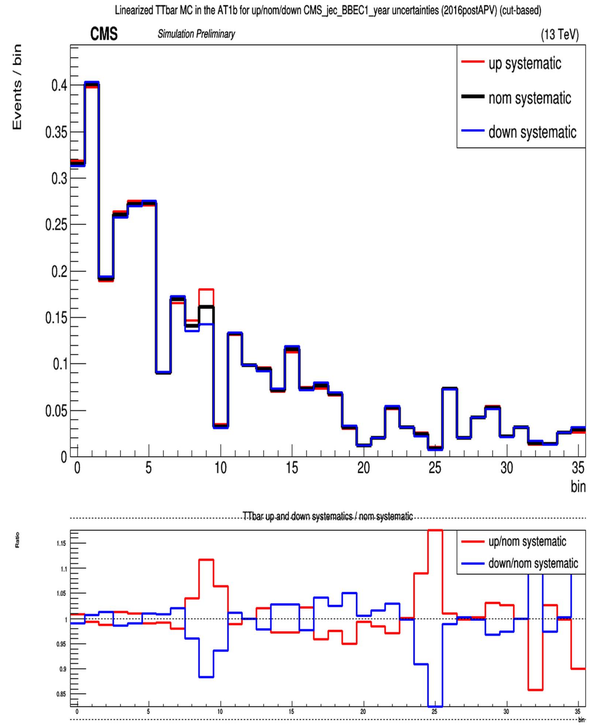

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsoluteTheory uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

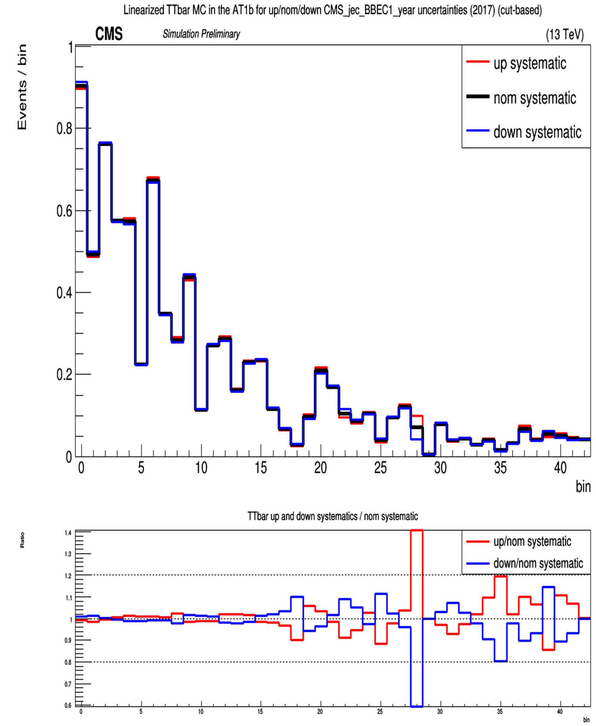

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

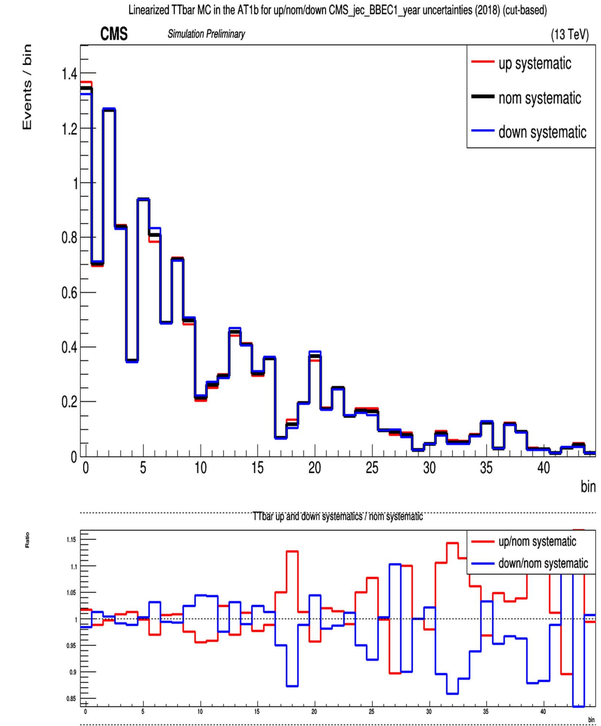

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_AbsoluteTheory uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

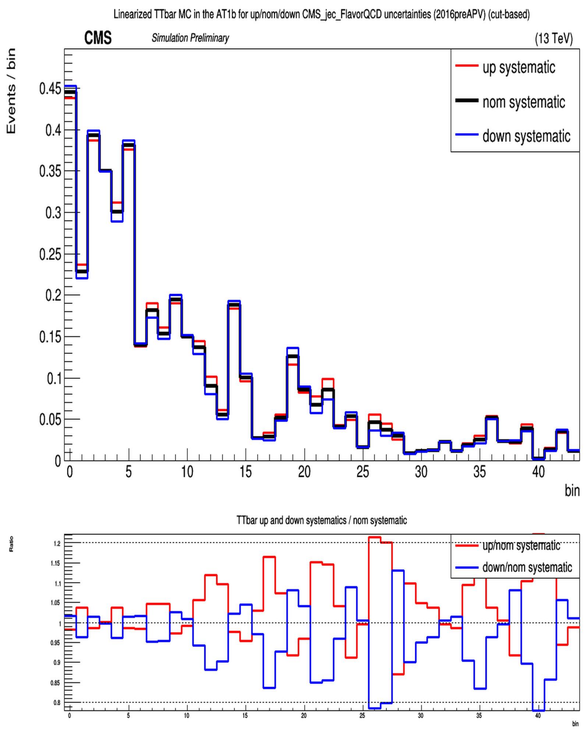

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

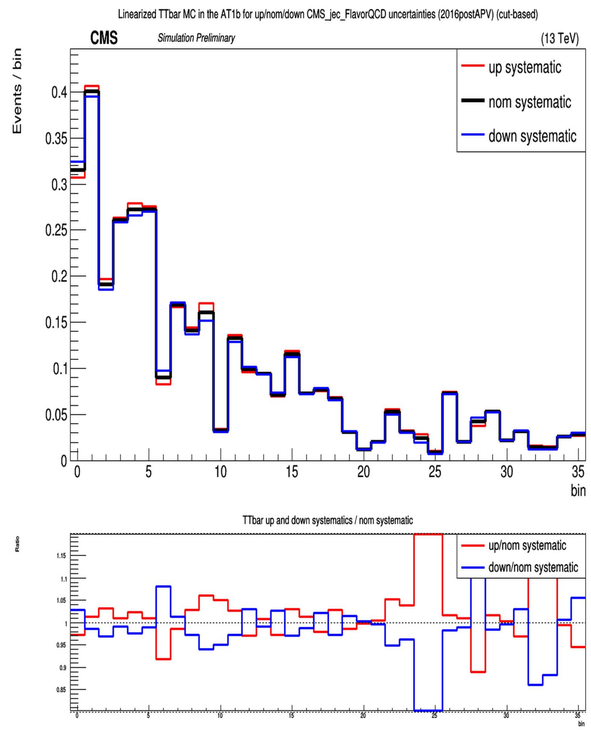

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_BBEC1_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

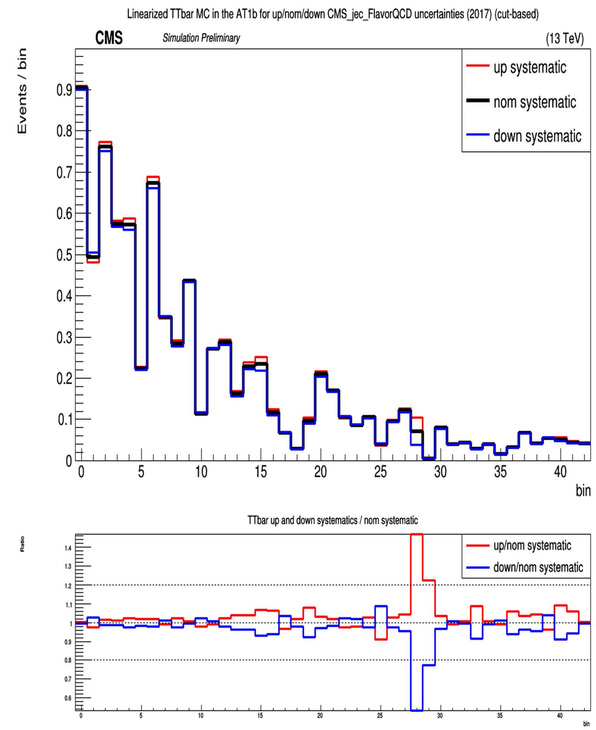

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_BBEC1_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

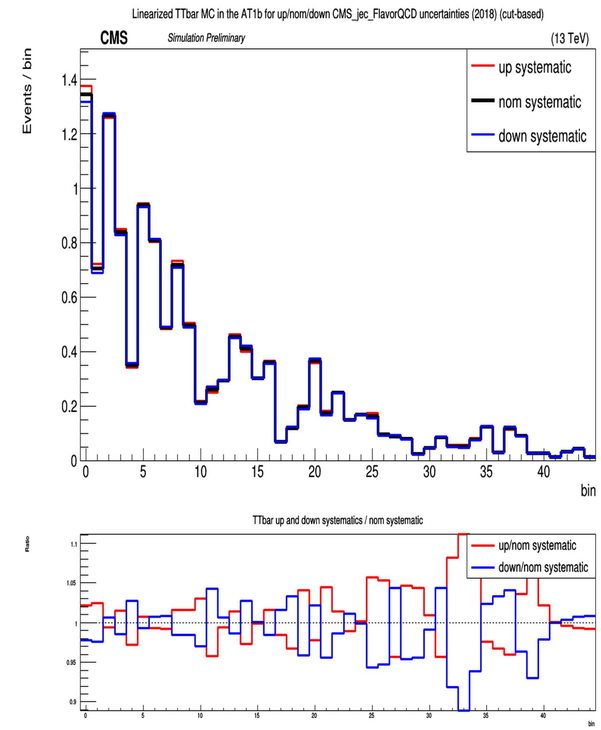

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_BBEC1_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

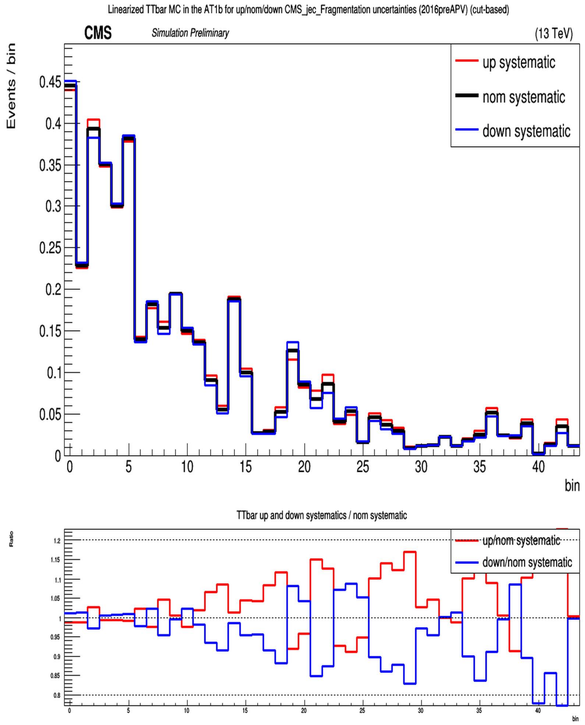

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_BBEC1_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

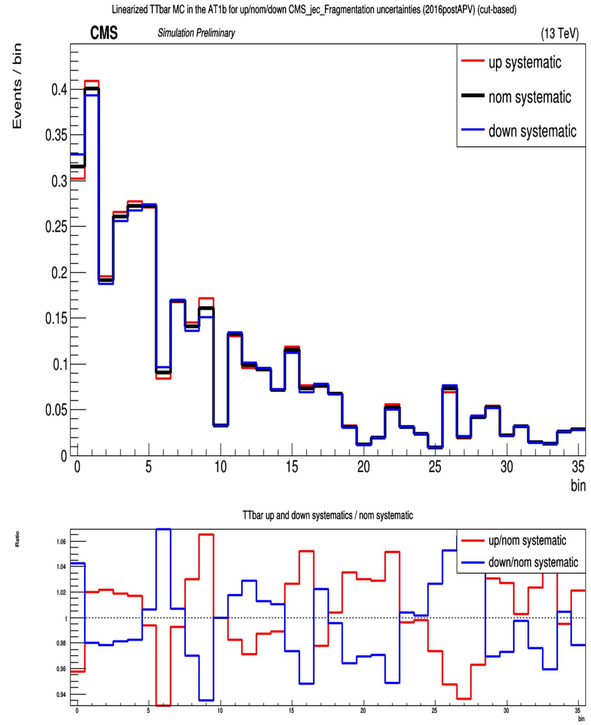

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_FlavorQCD uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

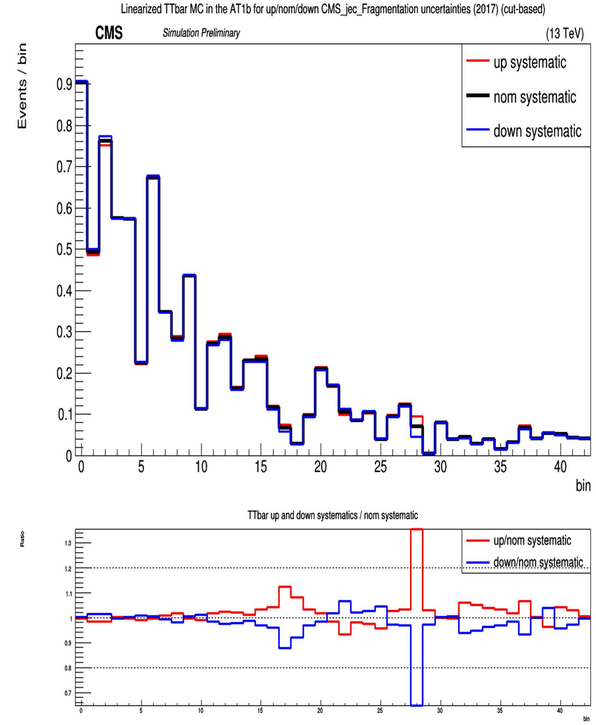

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_FlavorQCD uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

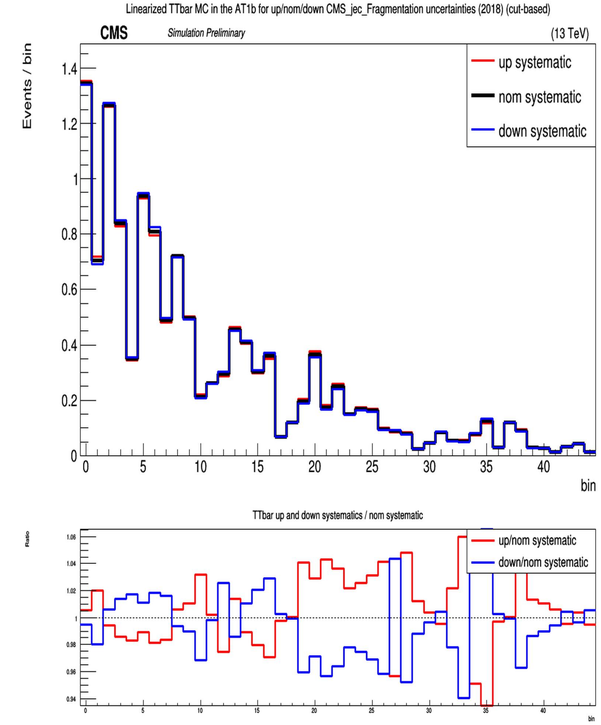

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_FlavorQCD uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

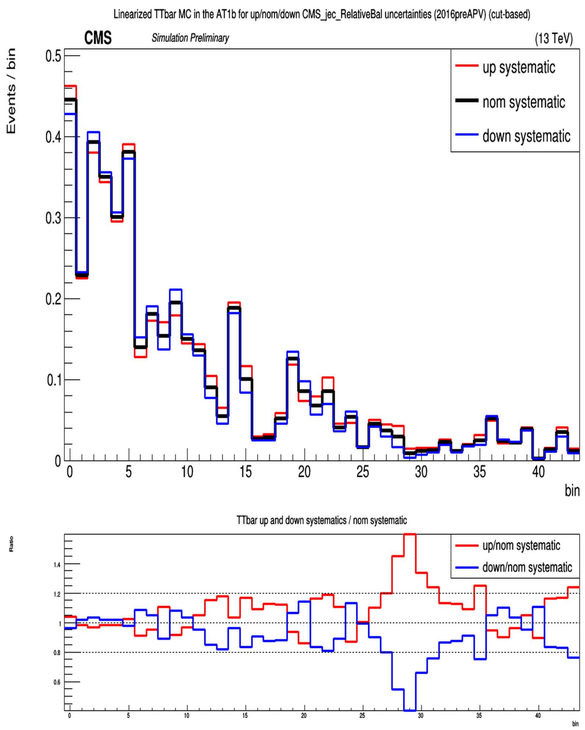

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_FlavorQCD uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

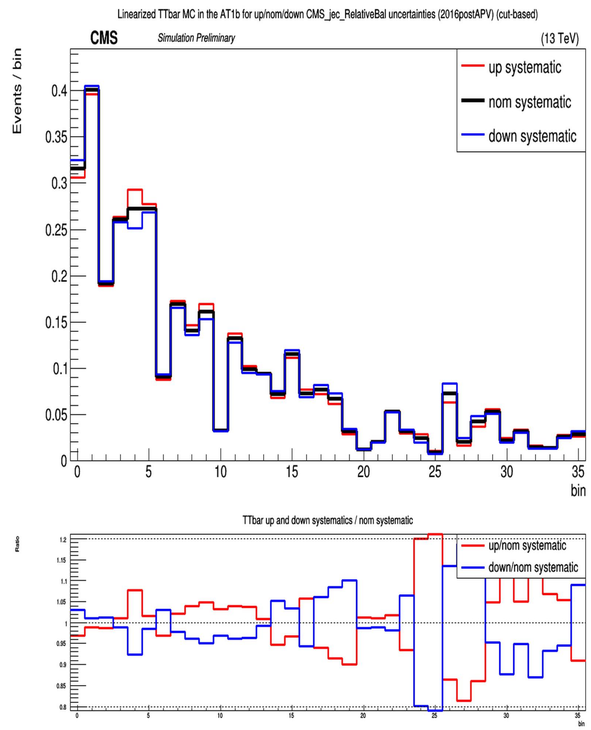

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_Fragmentation uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

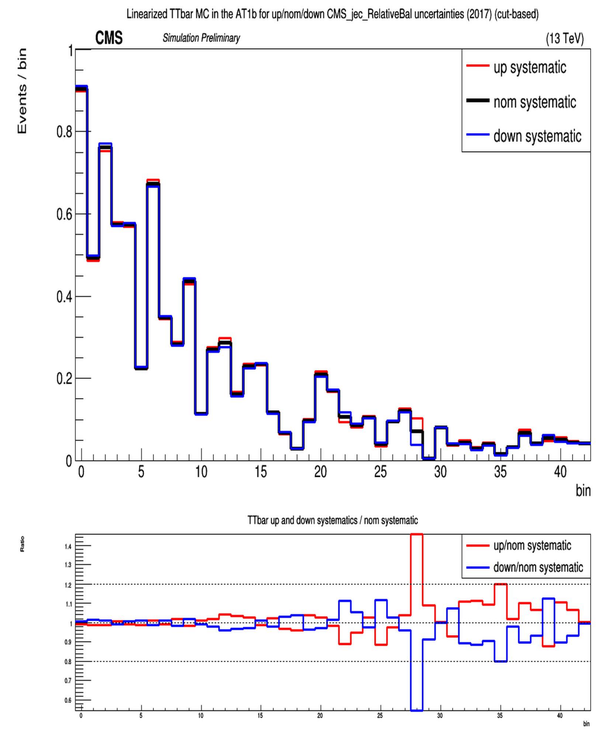

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_Fragmentation uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

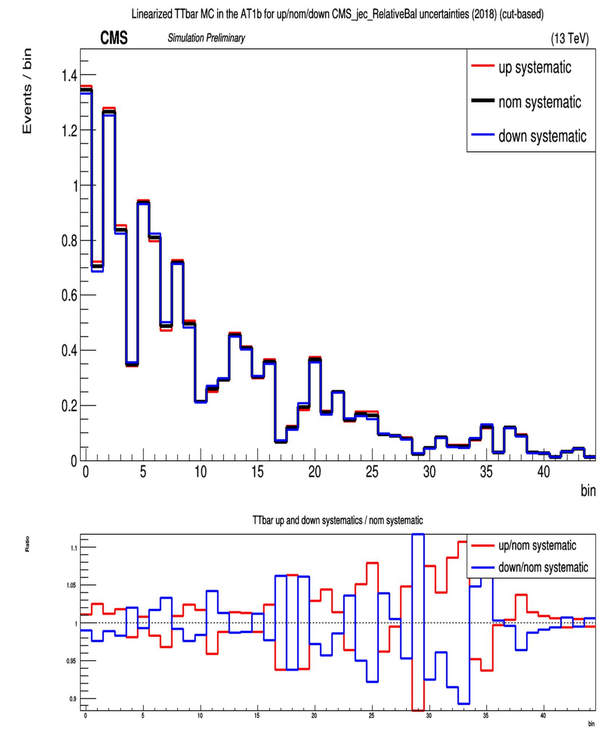

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_Fragmentation uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

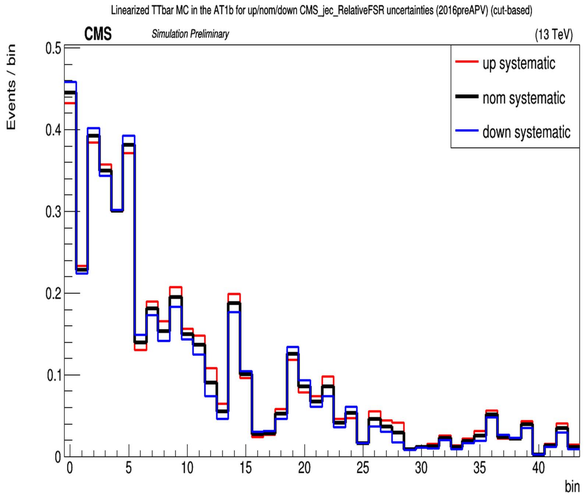

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_Fragmentation uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

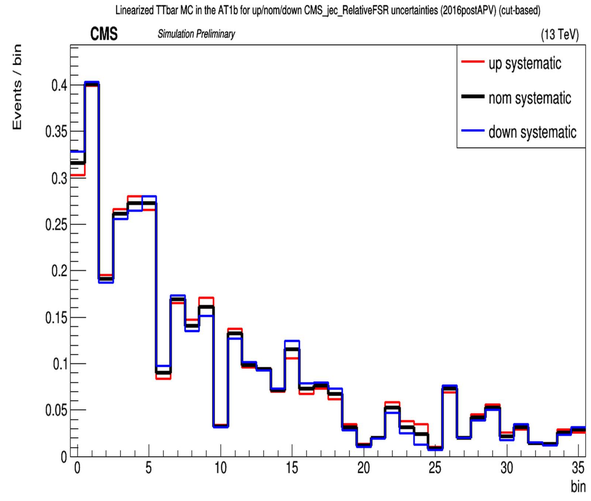

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_RelativeBal uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

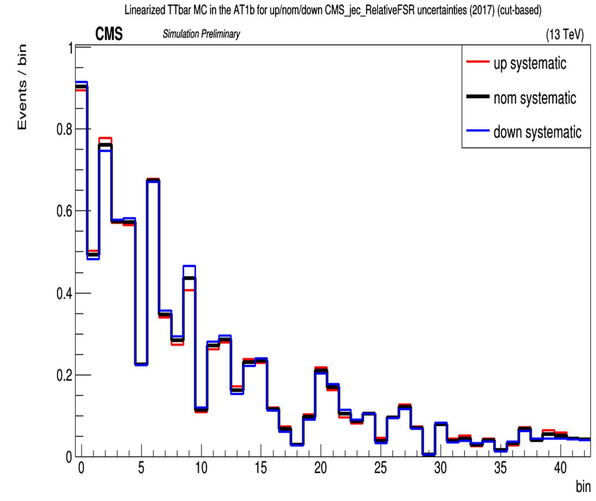

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_RelativeBal uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

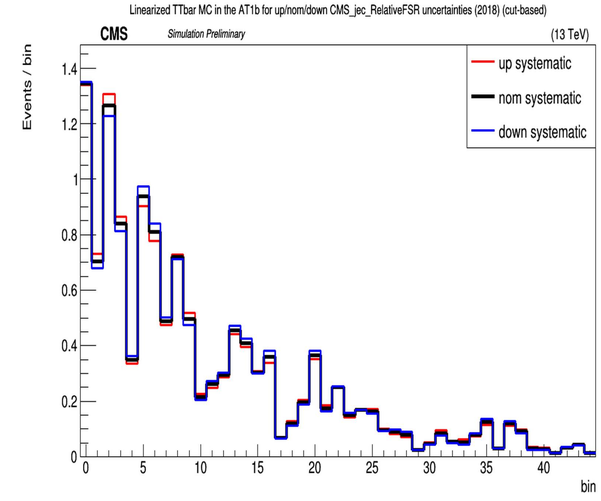

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_RelativeBal uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

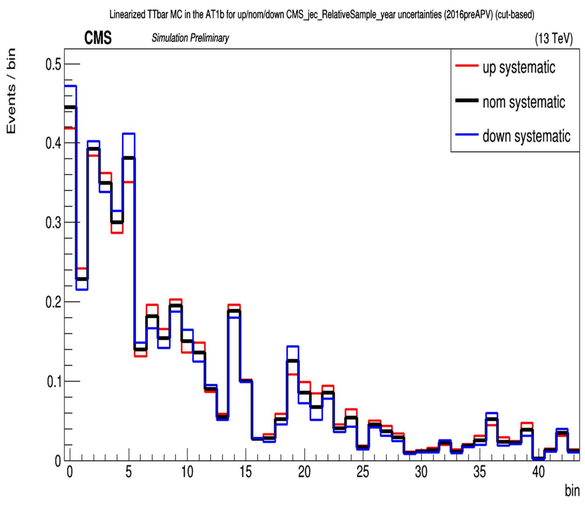

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_RelativeBal uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

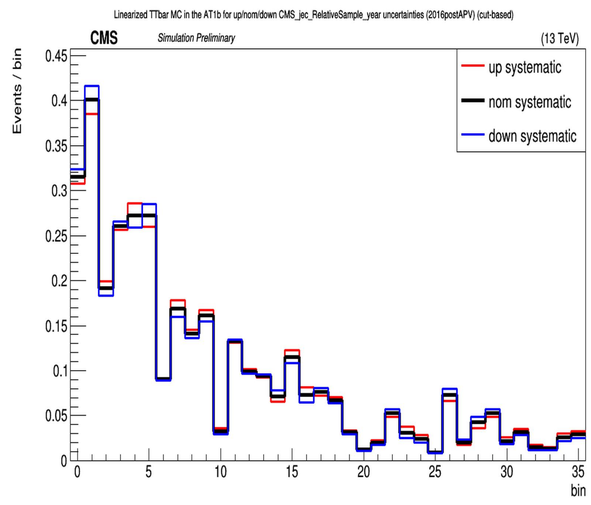

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_RelativeFSR uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

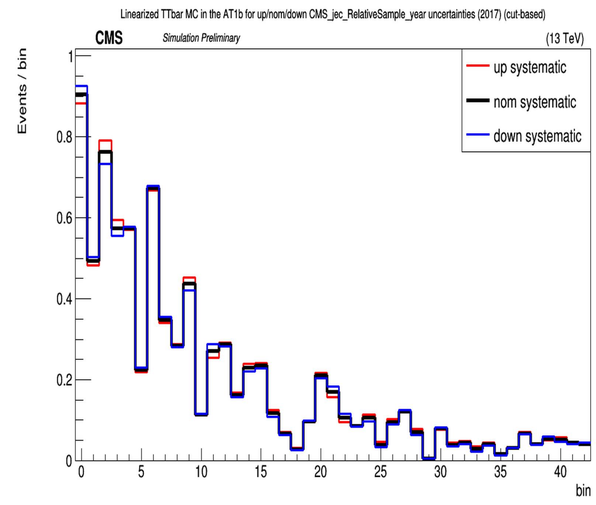

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_RelativeFSR uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

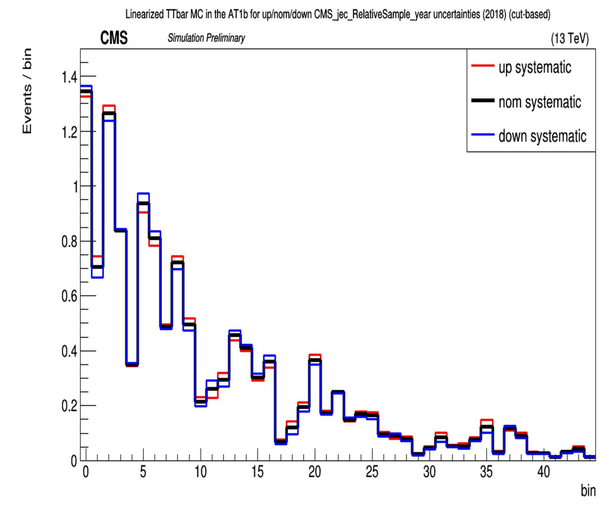

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_RelativeFSR uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

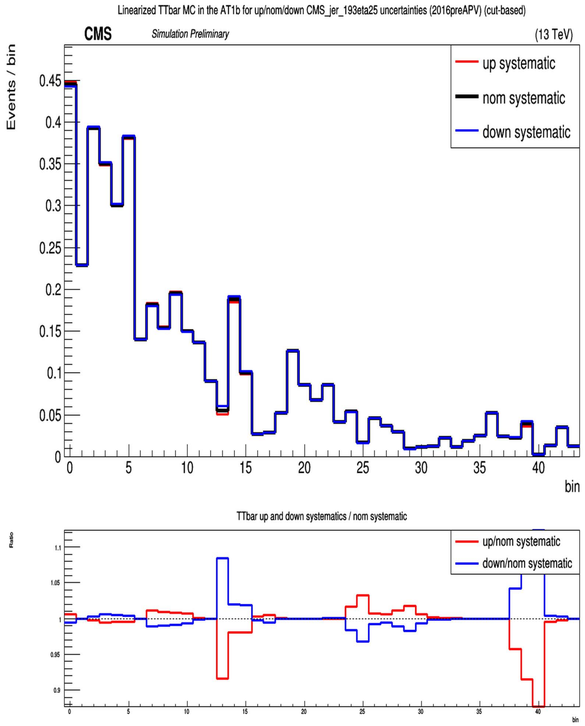

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_RelativeFSR uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

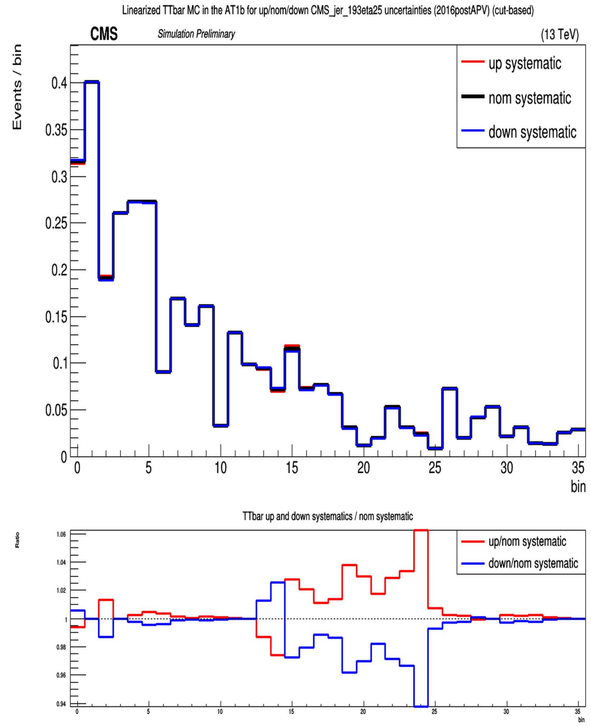

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_RelativeSample_year uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

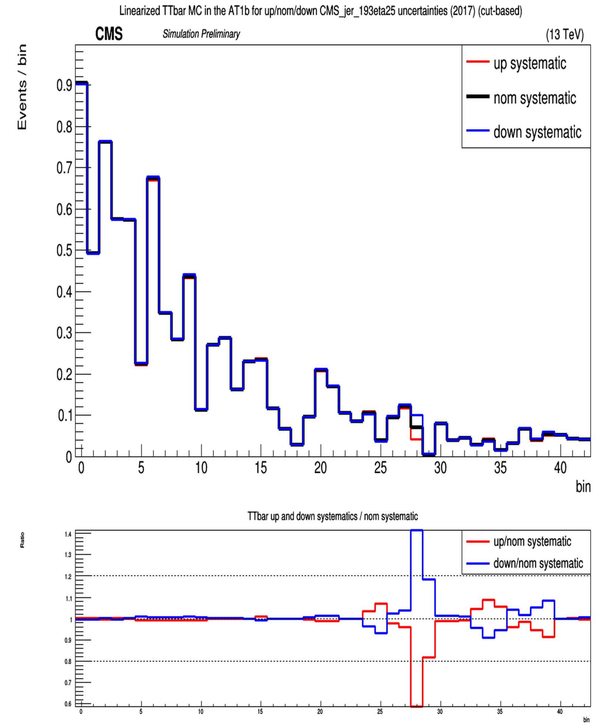

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_RelativeSample_year uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

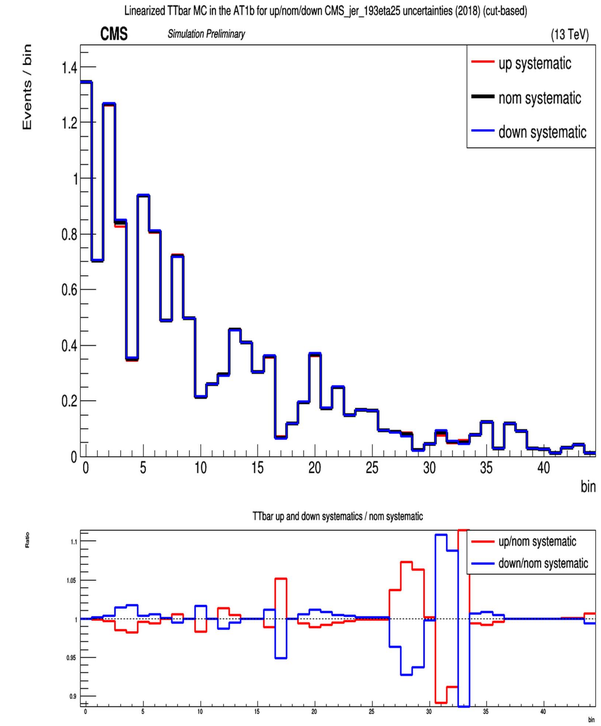

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_RelativeSample_year uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

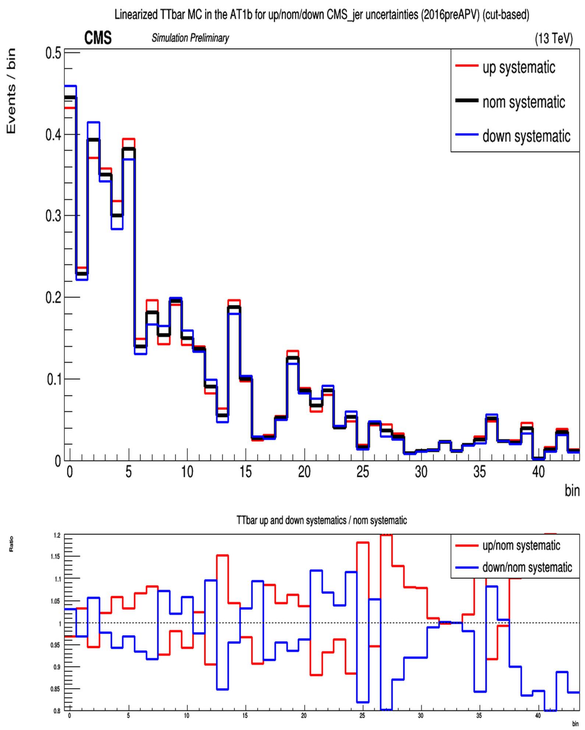

Linearized TTbar MC in the AT1b for up/nom/down CMS_jec_RelativeSample_year uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

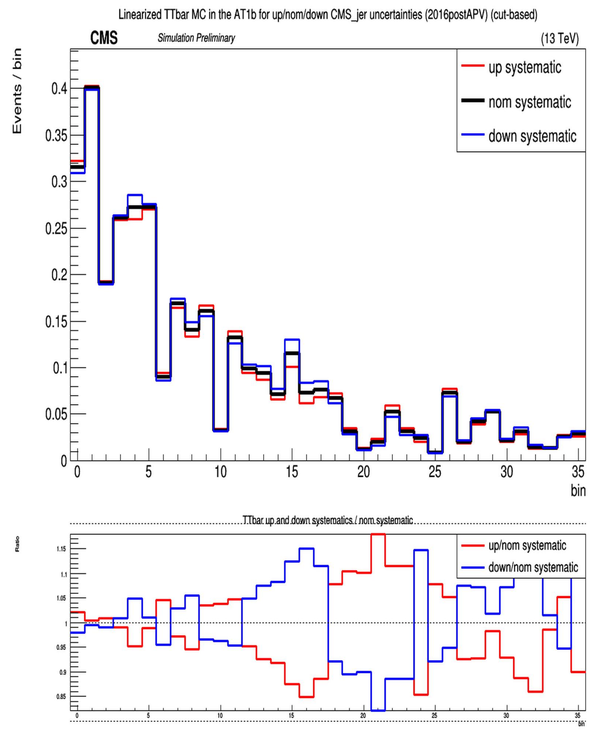

Linearized TTbar MC in the AT1b for up/nom/down CMS_jer_193eta25 uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

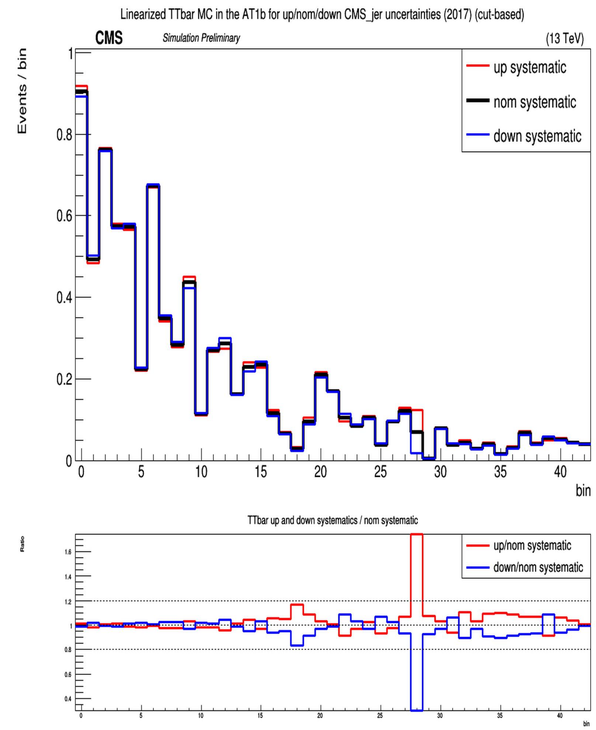

Linearized TTbar MC in the AT1b for up/nom/down CMS_jer_193eta25 uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

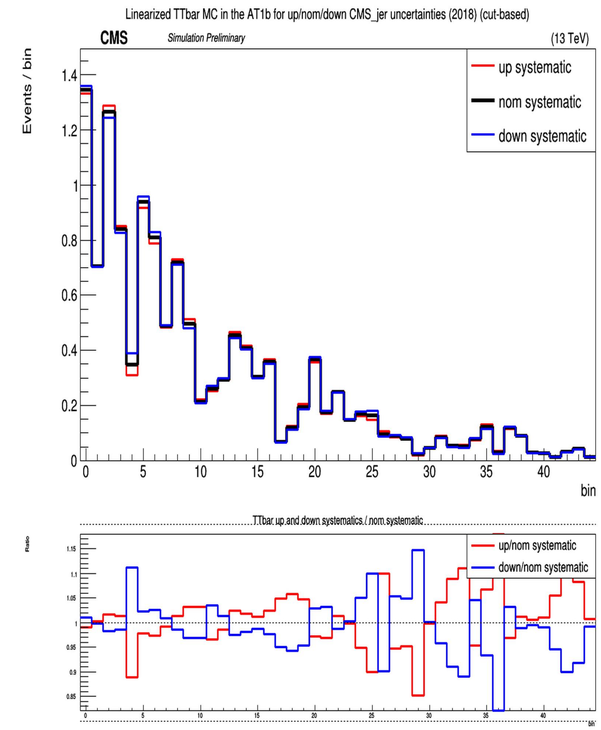

Linearized TTbar MC in the AT1b for up/nom/down CMS_jer_193eta25 uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

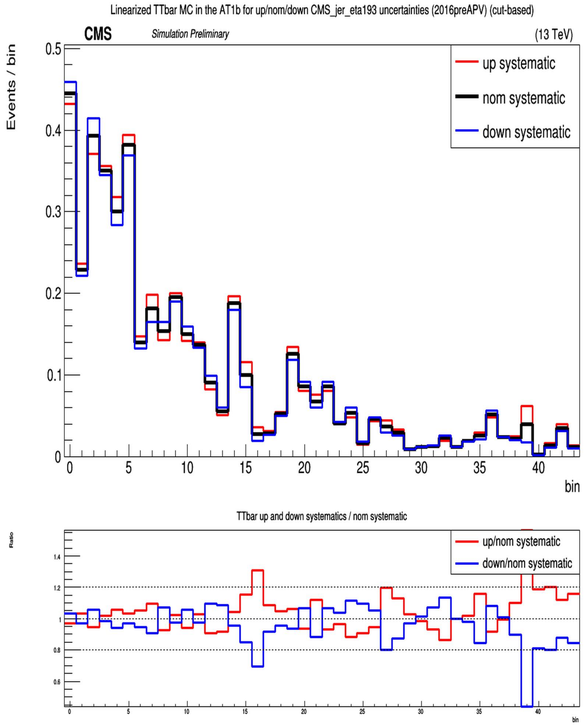

Linearized TTbar MC in the AT1b for up/nom/down CMS_jer_193eta25 uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

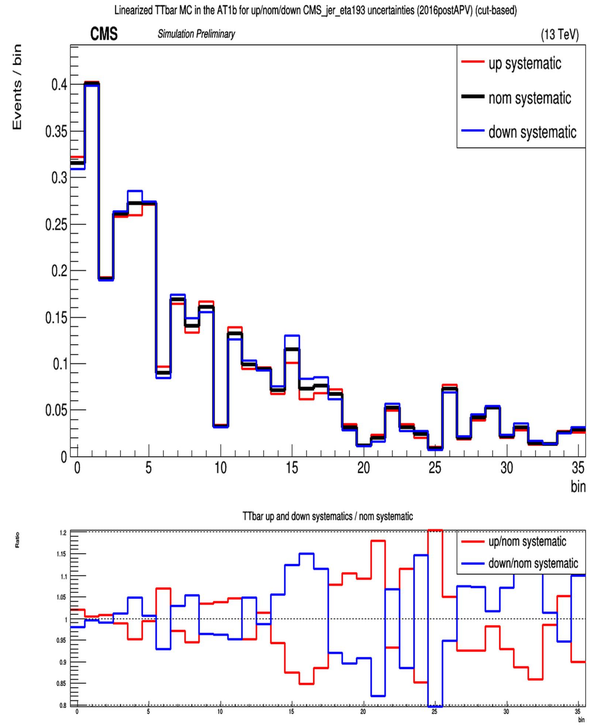

Linearized TTbar MC in the AT1b for up/nom/down CMS_jer uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

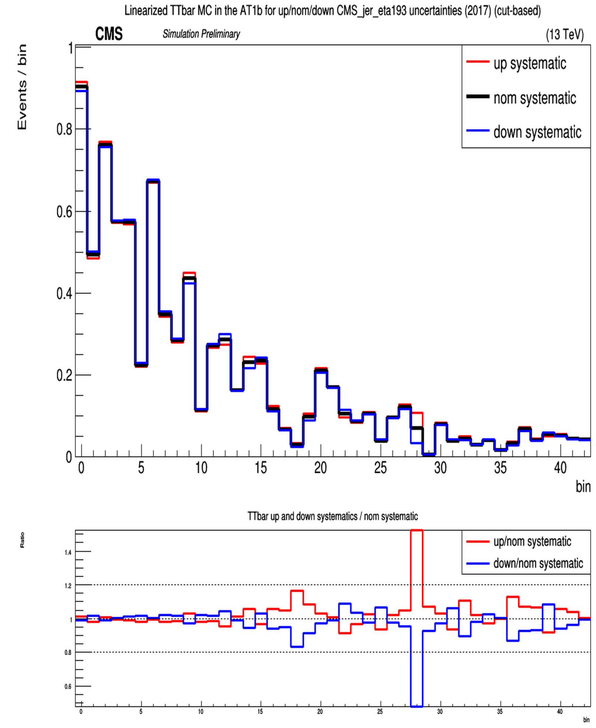

Linearized TTbar MC in the AT1b for up/nom/down CMS_jer uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

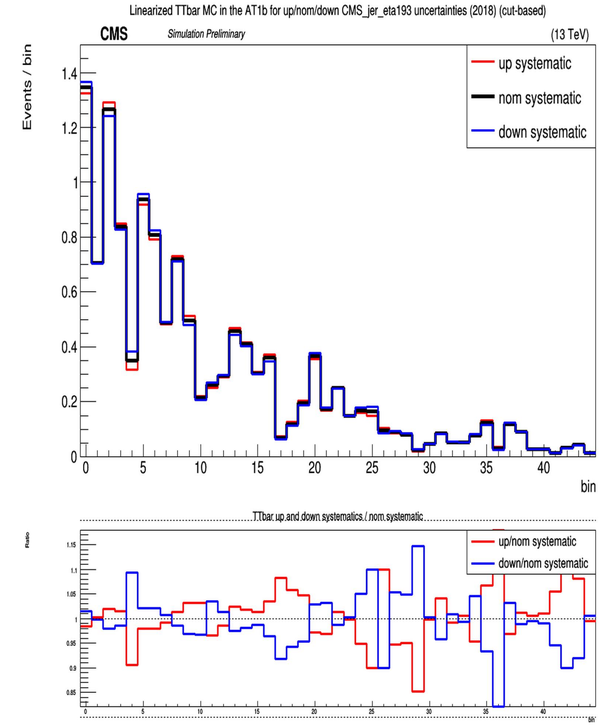

Linearized TTbar MC in the AT1b for up/nom/down CMS_jer uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

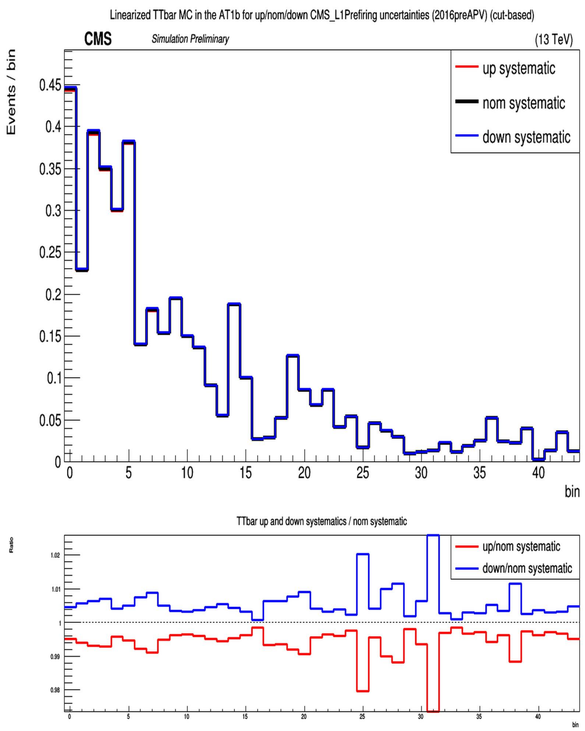

Linearized TTbar MC in the AT1b for up/nom/down CMS_jer uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
bin
up systematic
nom systematic
down systematic
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

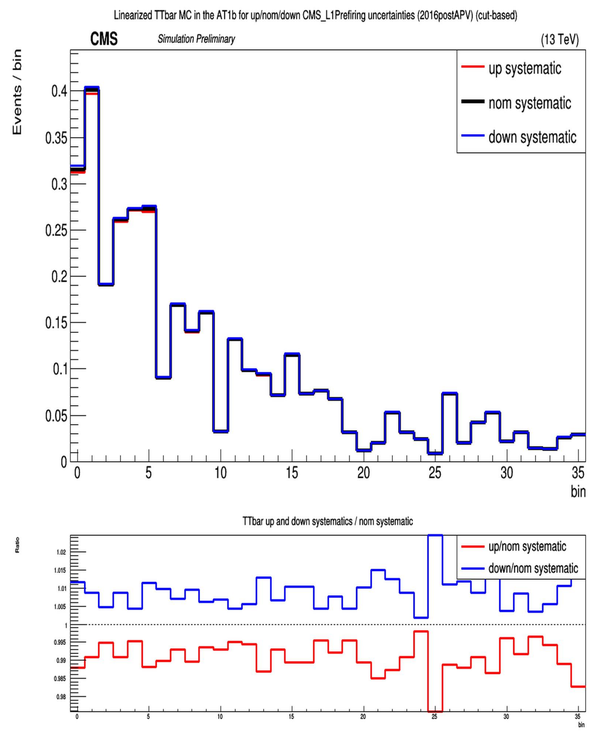

Linearized TTbar MC in the AT1b for up/nom/down CMS_jer_eta193 uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

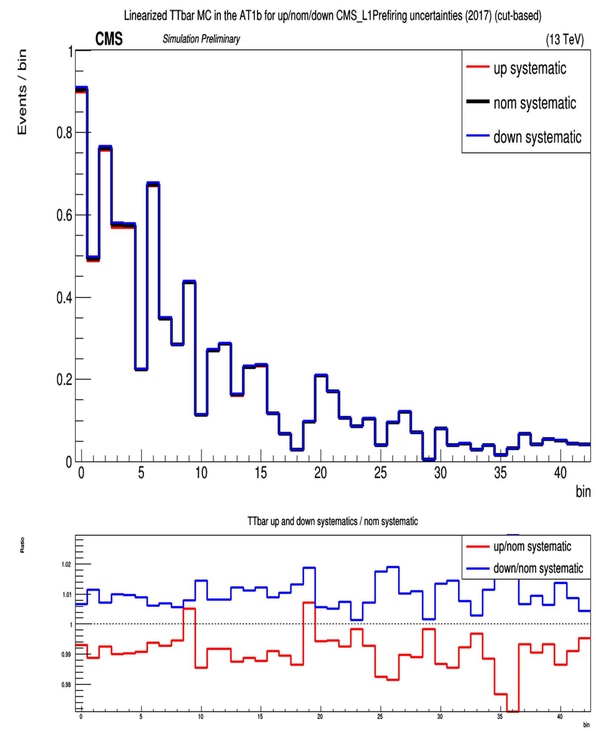

Linearized TTbar MC in the AT1b for up/nom/down CMS_jer_eta193 uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

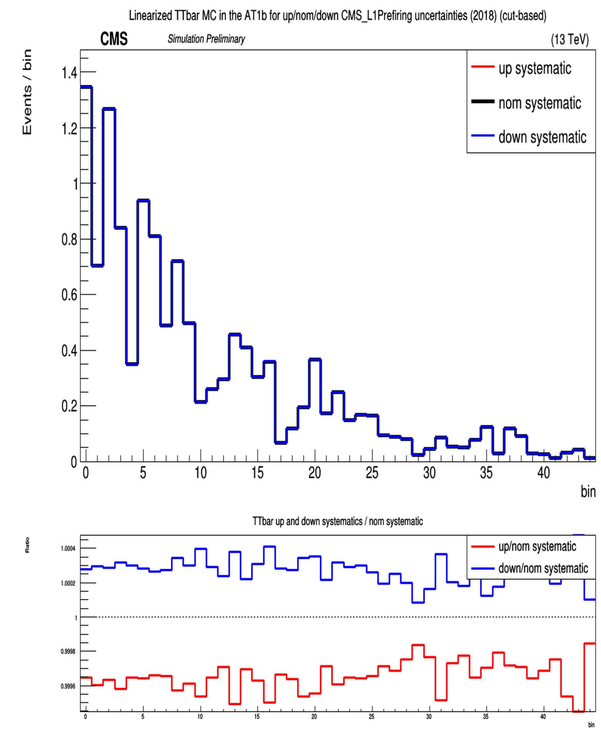

Linearized TTbar MC in the AT1b for up/nom/down CMS_jer_eta193 uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

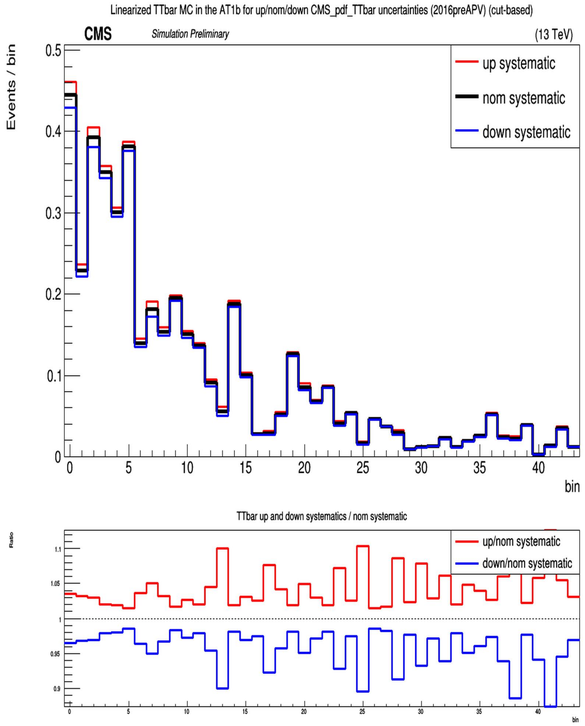

Linearized TTbar MC in the AT1b for up/nom/down CMS_jer_eta193 uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

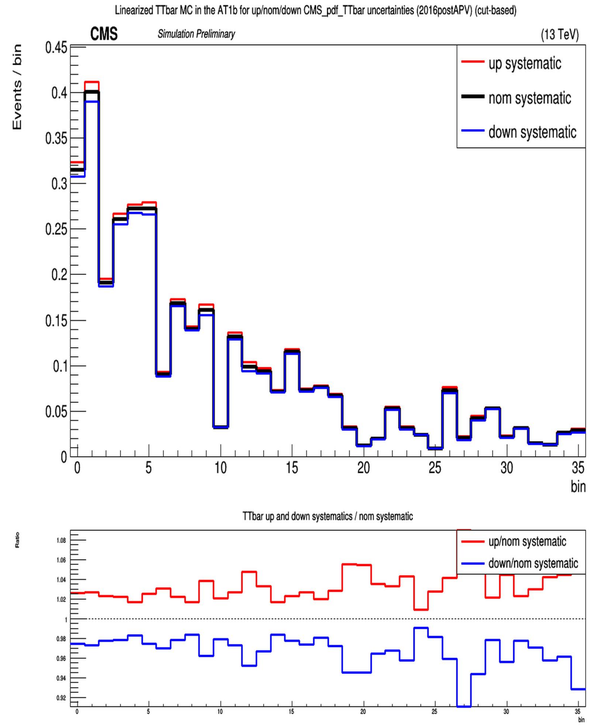

Linearized TTbar MC in the AT1b for up/nom/down CMS_L1Prefiring uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

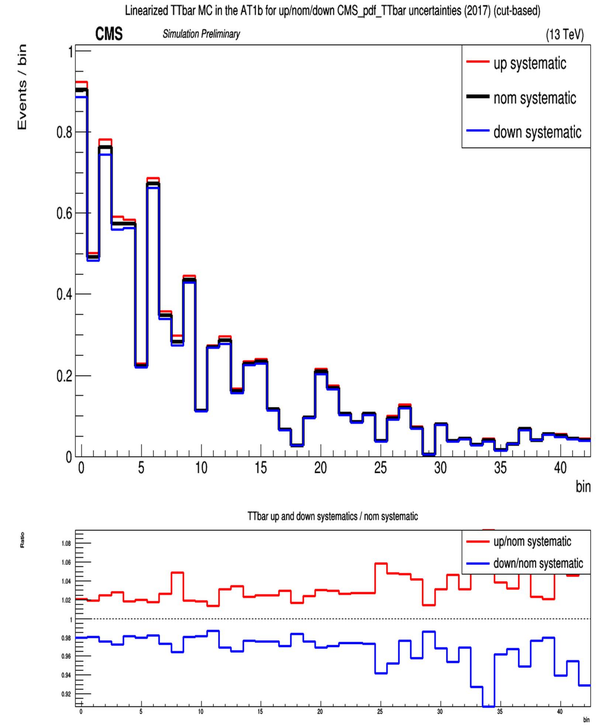

Linearized TTbar MC in the AT1b for up/nom/down CMS_L1Prefiring uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

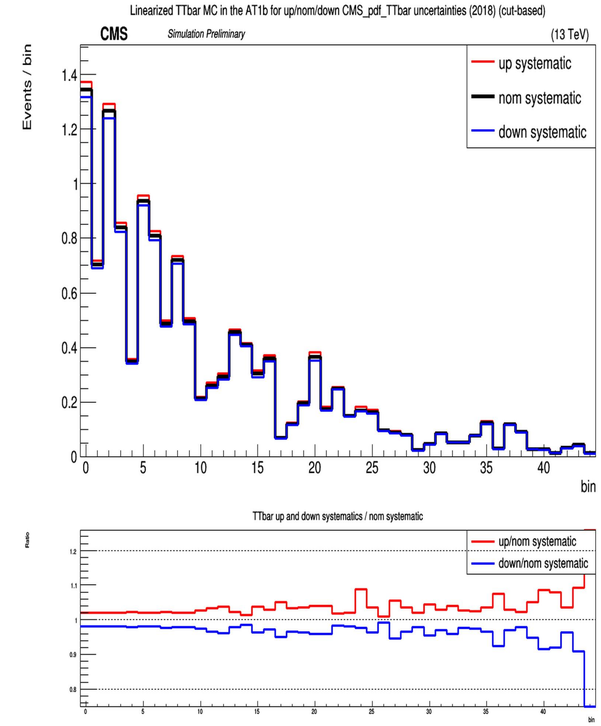

Linearized TTbar MC in the AT1b for up/nom/down CMS_L1Prefiring uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

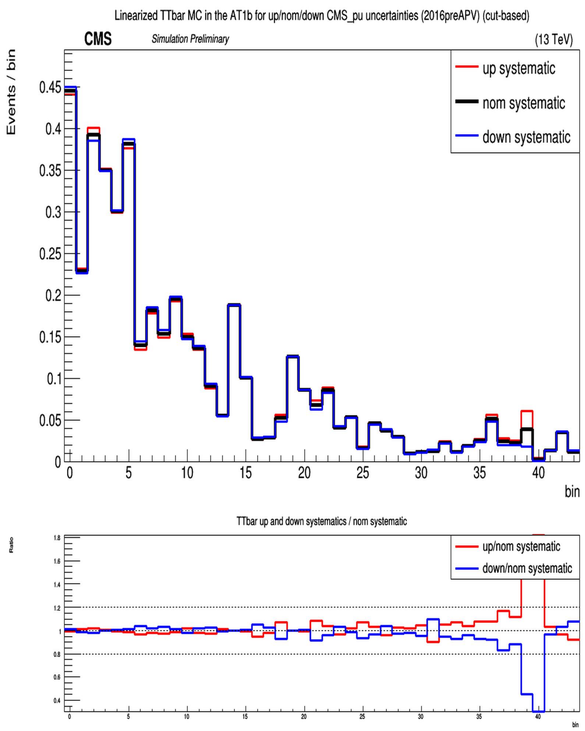

Linearized TTbar MC in the AT1b for up/nom/down CMS_L1Prefiring uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
up systematic
nom systematic
down systematic
Events / bin
bin
TTbar up and down systematics / nom systematic
up/nom systematic
down/nom systematic
Ratio

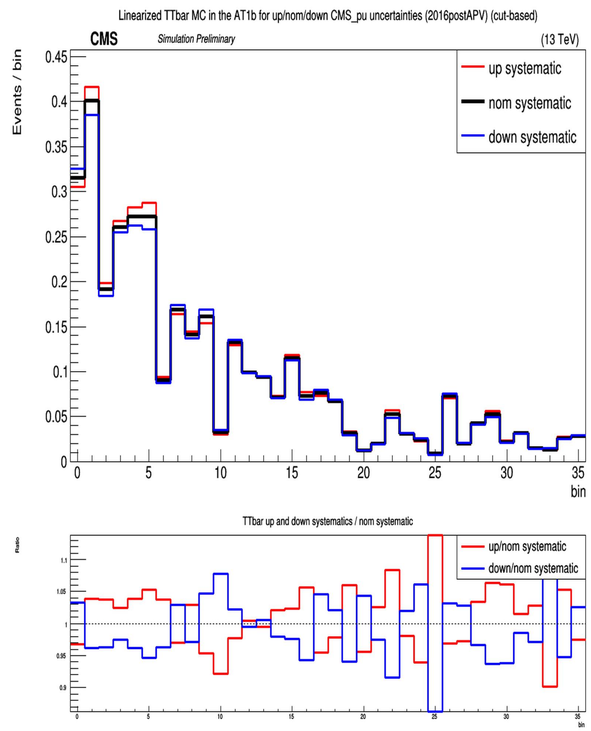

Linearized TTbar MC in the AT1b for up/nom/down CMS_pdf_TTbar uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

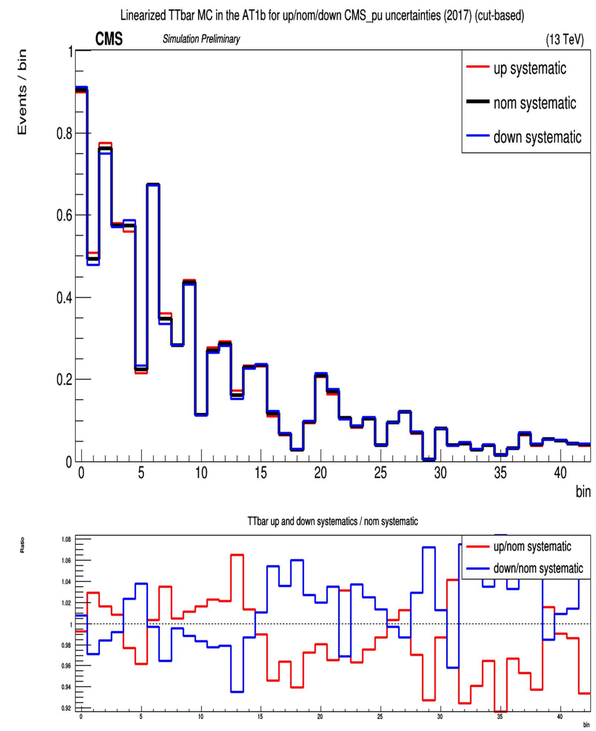

Linearized TTbar MC in the AT1b for up/nom/down CMS_pdf_TTbar uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

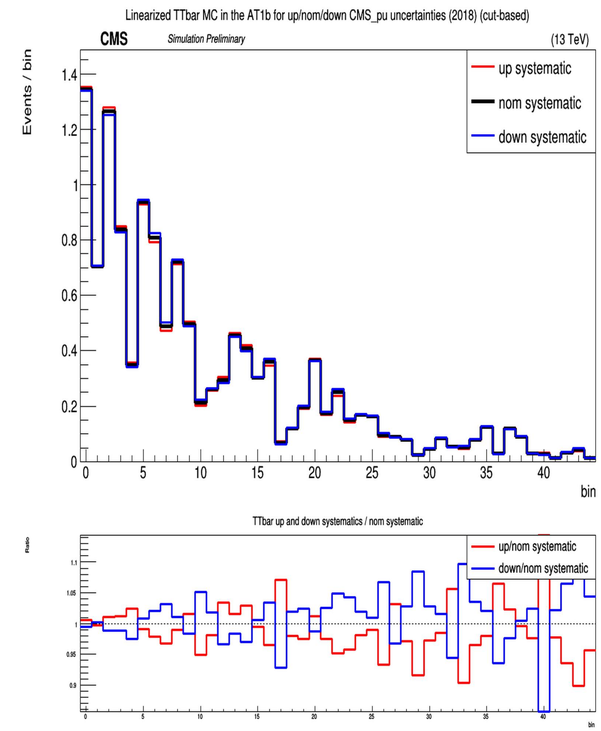

Linearized TTbar MC in the AT1b for up/nom/down CMS_pdf_TTbar uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

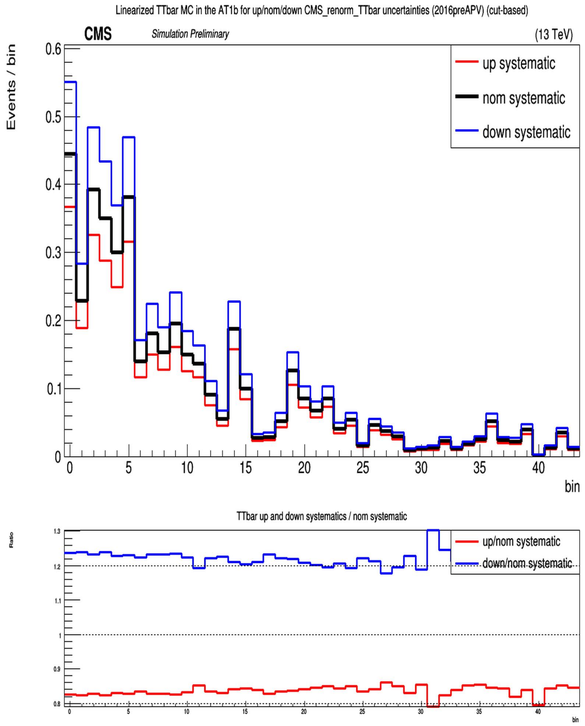

Linearized TTbar MC in the AT1b for up/nom/down CMS_pdf_TTbar uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

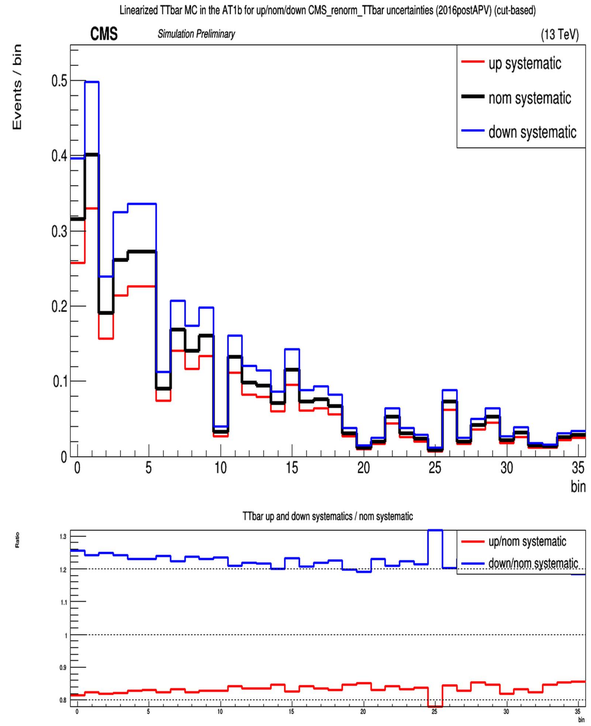

Linearized TTbar MC in the AT1b for up/nom/down CMS_pu uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

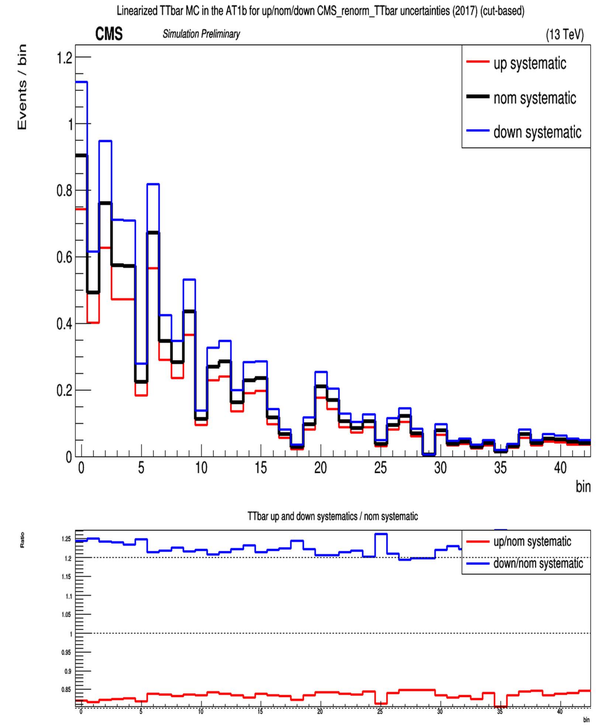

Linearized TTbar MC in the AT1b for up/nom/down CMS_pu uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

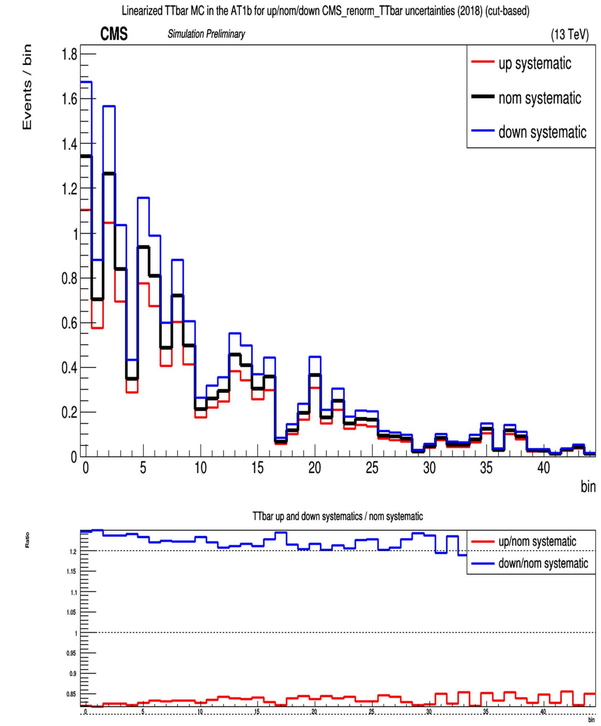

Linearized TTbar MC in the AT1b for up/nom/down CMS_pu uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

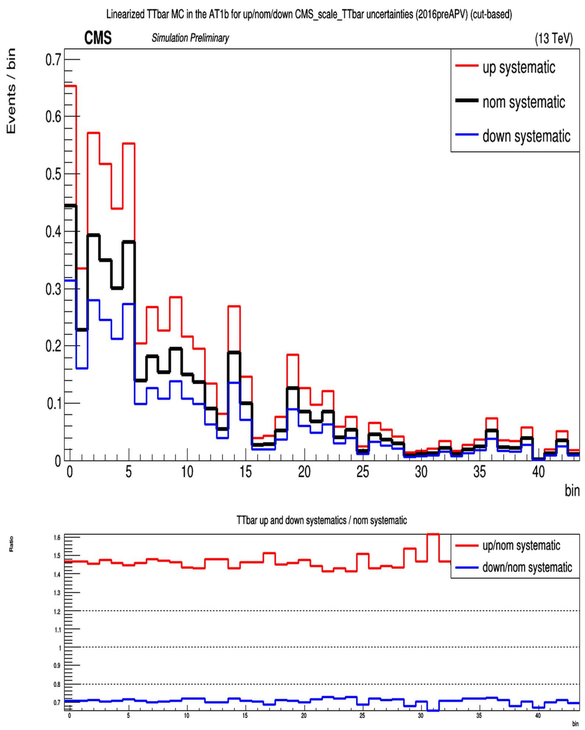

Linearized TTbar MC in the AT1b for up/nom/down CMS_pu uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

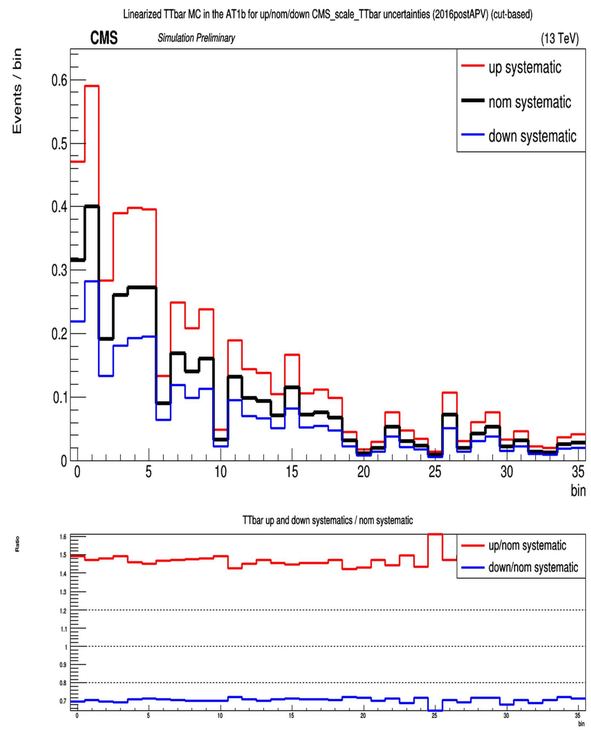

Linearized TTbar MC in the AT1b for up/nom/down CMS_renorm_TTbar uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

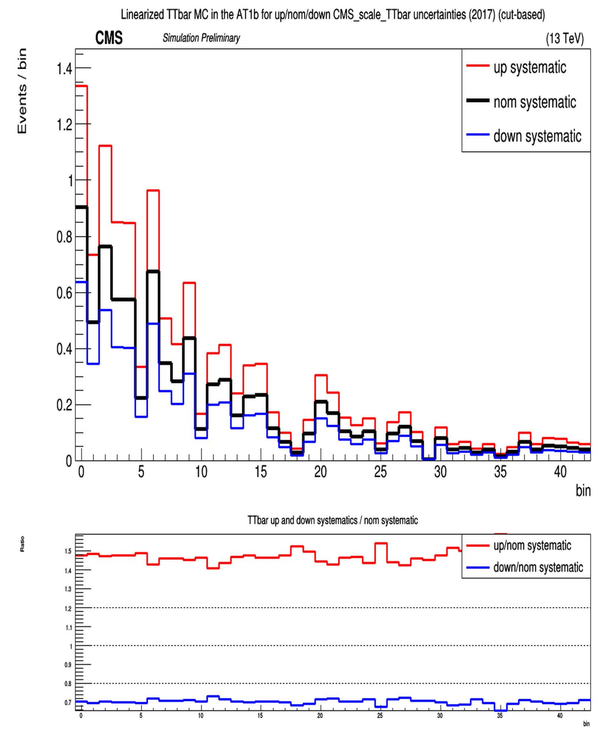

Linearized TTbar MC in the AT1b for up/nom/down CMS_renorm_TTbar uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

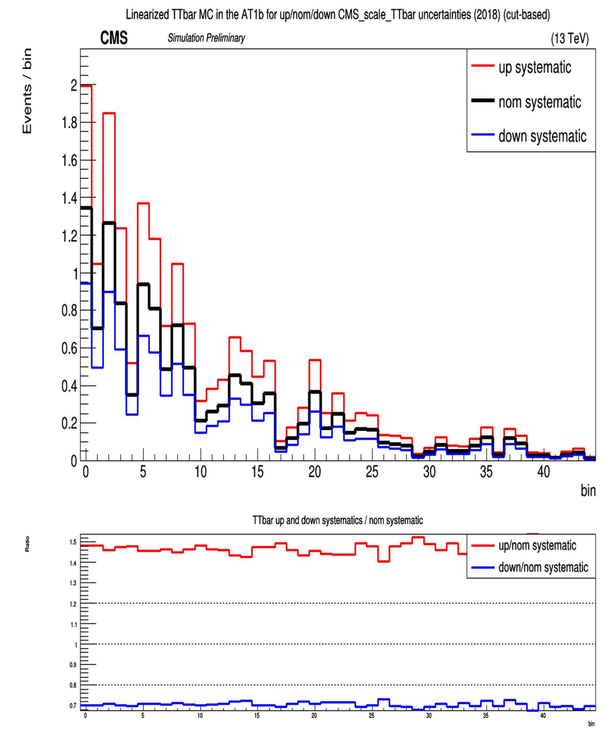

Linearized TTbar MC in the AT1b for up/nom/down CMS_renorm_TTbar uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

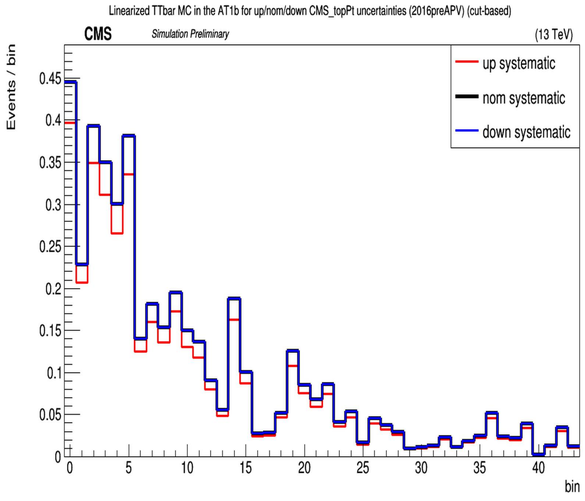

Linearized TTbar MC in the AT1b for up/nom/down CMS_renorm_TTbar uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

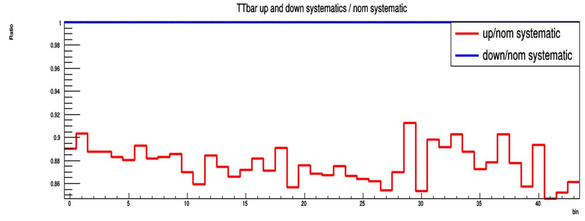

Linearized TTbar MC in the AT1b for up/nom/down CMS_scale_TTbar uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

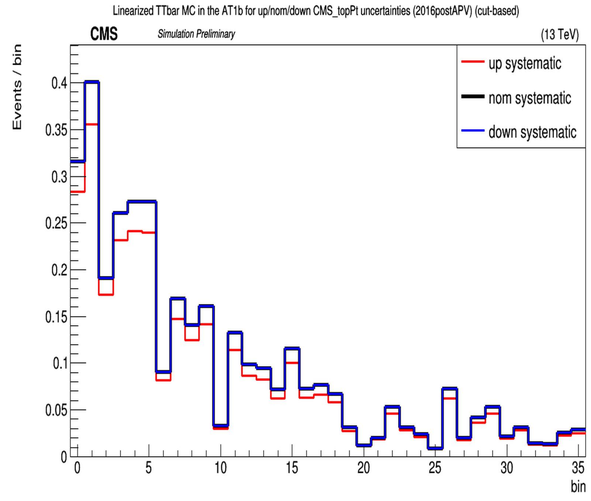

Linearized TTbar MC in the AT1b for up/nom/down CMS_scale_TTbar uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

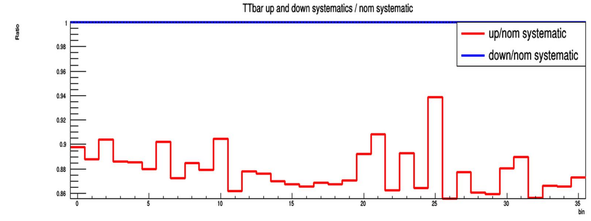

Linearized TTbar MC in the AT1b for up/nom/down CMS_scale_TTbar uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

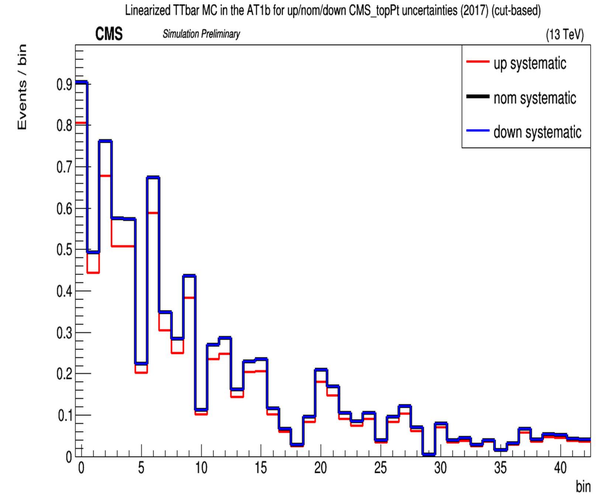

Linearized TTbar MC in the AT1b for up/nom/down CMS_scale_TTbar uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin
TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic

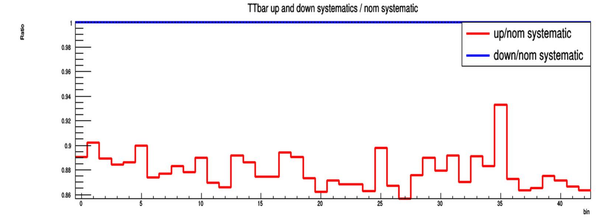

Linearized TTbar MC in the AT1b for up/nom/down CMS_topPt uncertainties (2016preAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin

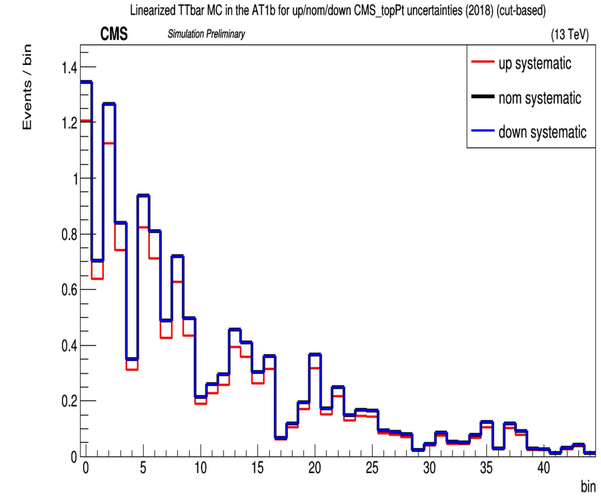

TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin

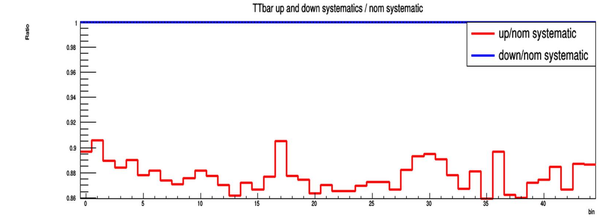

Linearized TTbar MC in the AT1b for up/nom/down CMS_topPt uncertainties (2016postAPV) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin


TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin


Linearized TTbar MC in the AT1b for up/nom/down CMS_topPt uncertainties (2017) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin


TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin


Linearized TTbar MC in the AT1b for up/nom/down CMS_topPt uncertainties (2018) (cut-based)
CMS
Simulation Preliminary
(13 TeV)
Events / bin
up systematic
nom systematic
down systematic
bin


TTbar up and down systematics / nom systematic
Ratio
up/nom systematic
down/nom systematic
bin