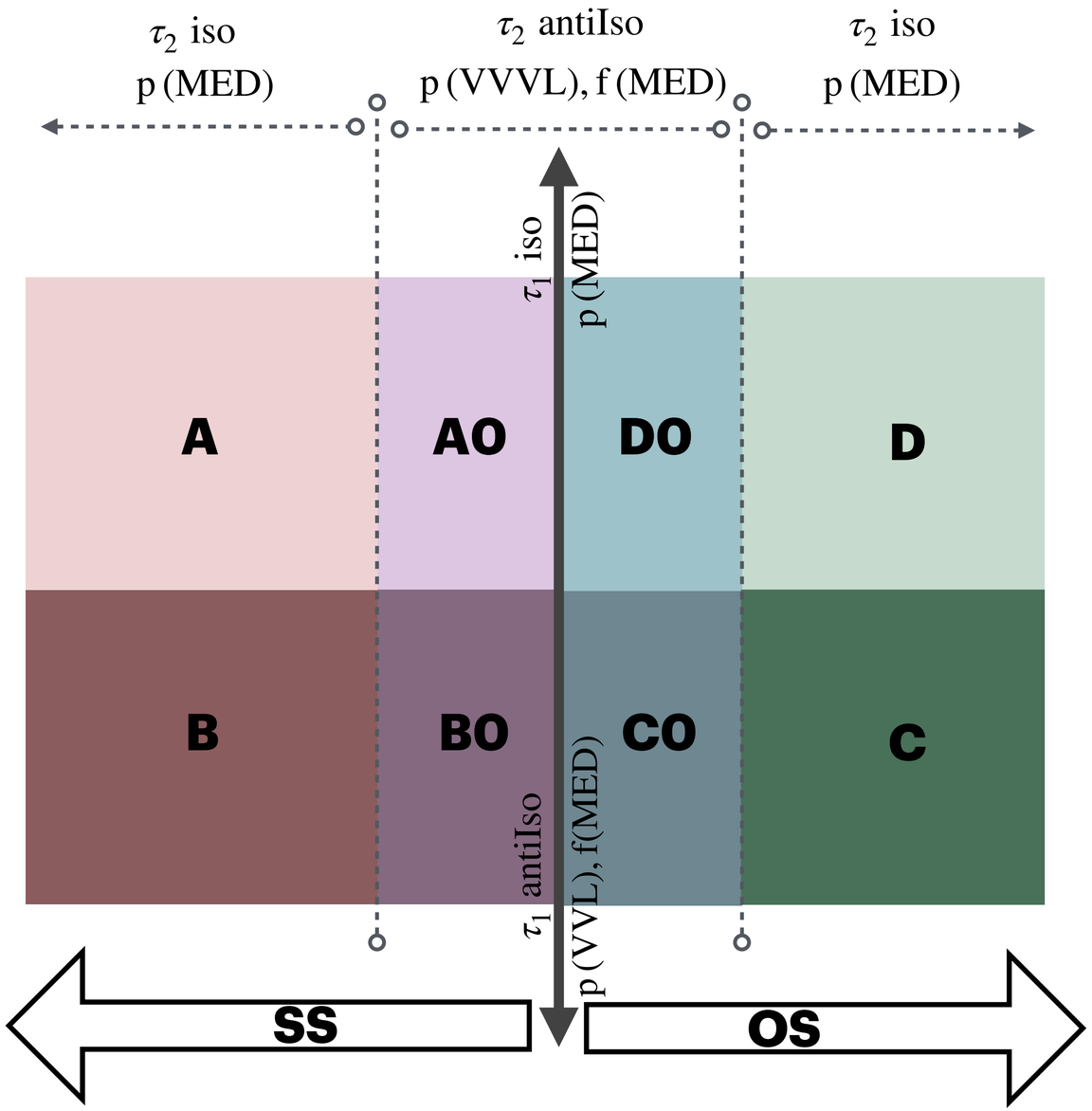
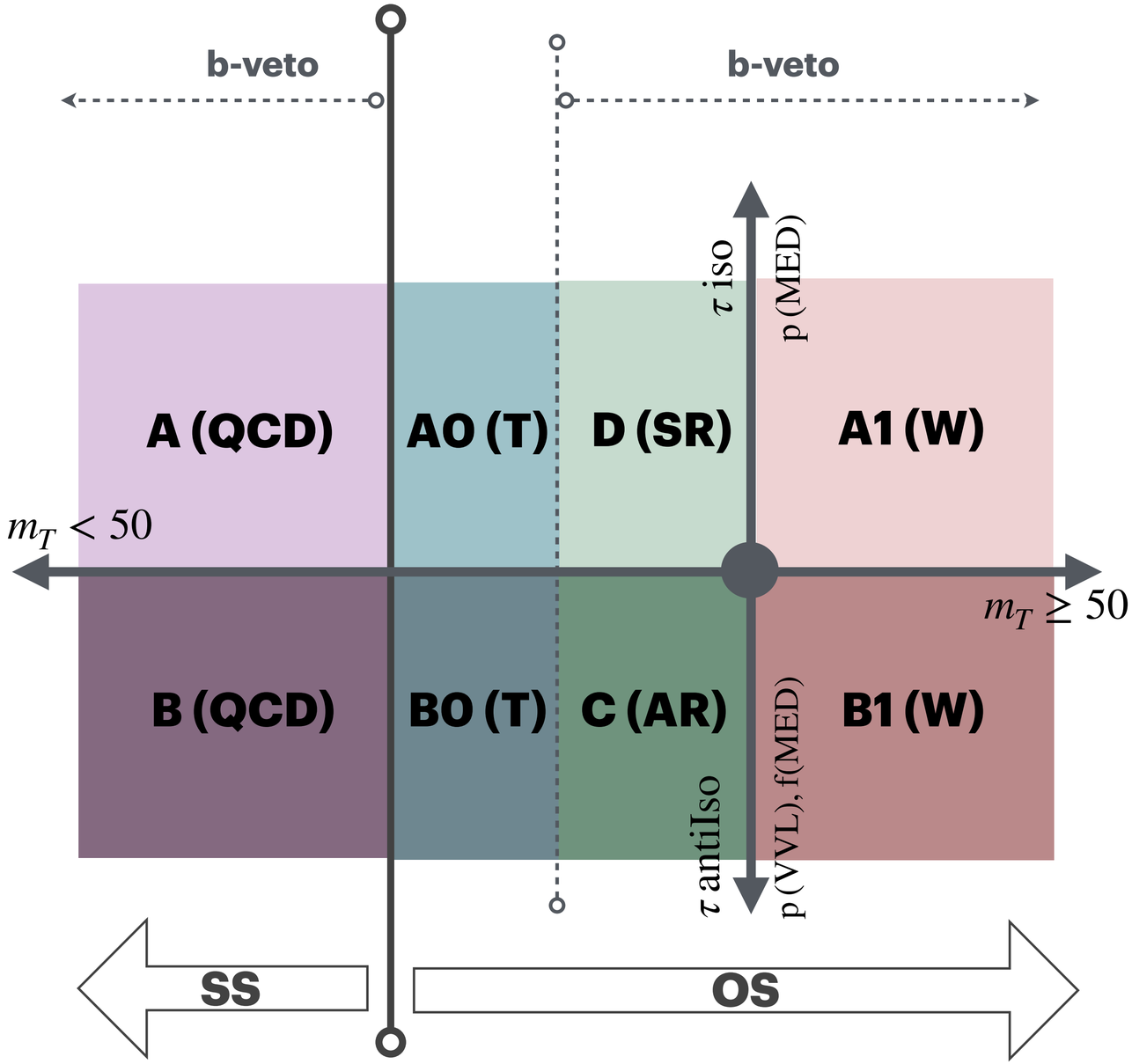
FF Schemes

Schematic for tau-tau channel regions



A & B	Derivation regions [+ for Closure]
AO & BO	Derivation regions
CO	Application region
DO	Extrapolation Correction region
C	Application region
D	Signal region

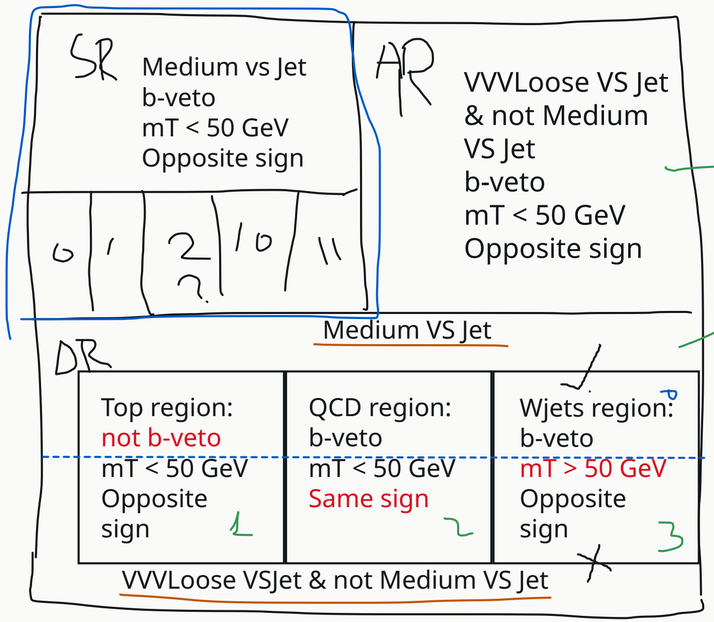
Schematic for e/mu-tau channel regions

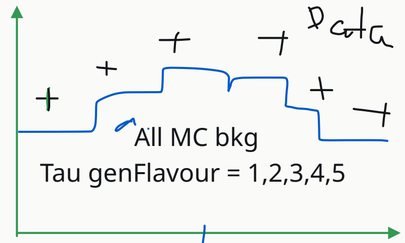


A & B	QCD Derivation regions
AO & BO	Top Derivation regions
A1 & B1	WJets Derivation regions
C	Application region
D	Signal region

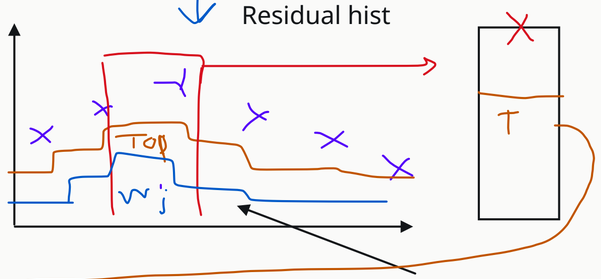
- FF derivation: tau genPartFlavor 1 to 5 should be used to get the MC contribution from real taus only
- To estimate the fraction of fakes from QCD, W and top, in the AR, contribution from all the said processes with tau genPartFlavour 0 can be stacked with the residual of Data-MC(true)
- The FF estimated have to be multiplied with the respective fraction to get the final FF

Thanks @Stepan





Residual hist



Tau genFlavour = 6

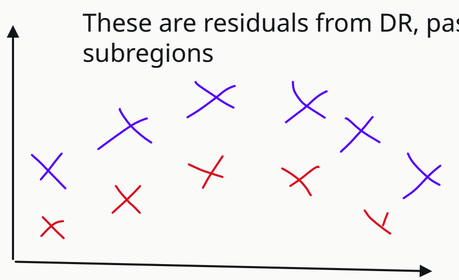
$$\frac{N_T}{N_X} = w_t \qquad FF_\tau = \frac{N}{N}$$

medium VS Jet

VVVLoose VSJet & not Medium VS Jet

from joint residual histogram

Total FF = FF_t x *w_t + FF_wjets x w_wjets + FF_qcd x w_qcd*



These are residuals from DR, pass and fail VS Jet subregions

Calculating Fake factors