

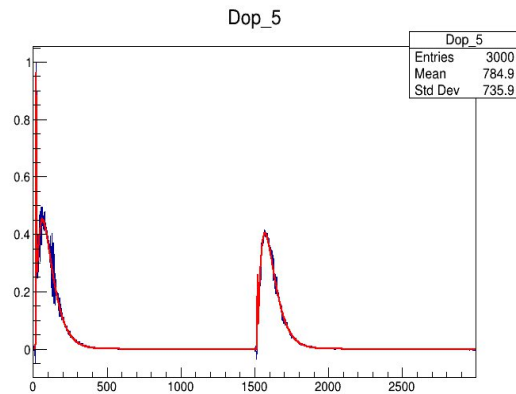
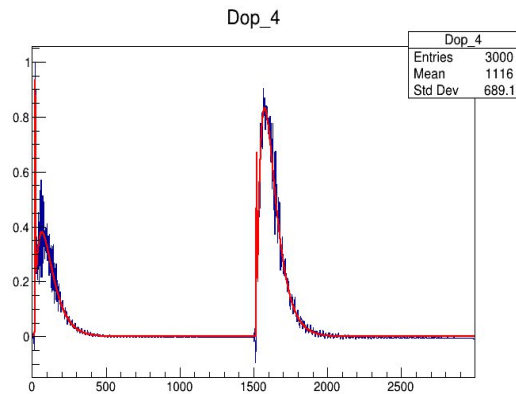
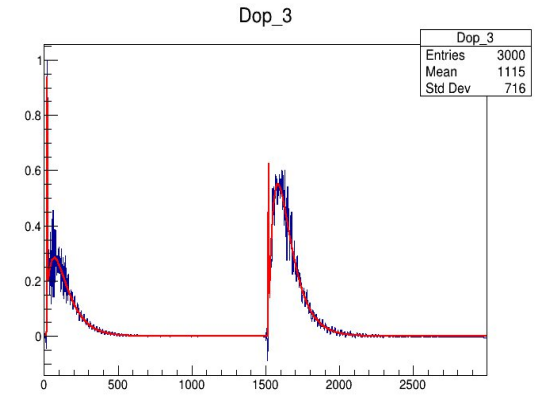
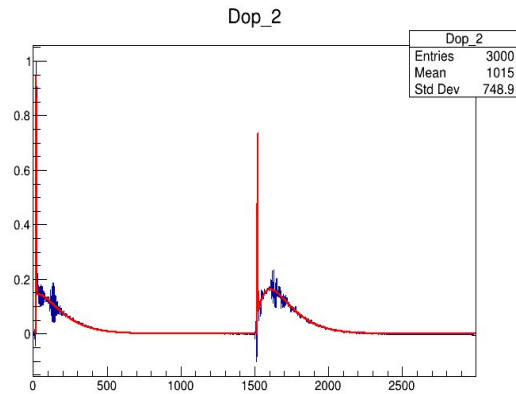
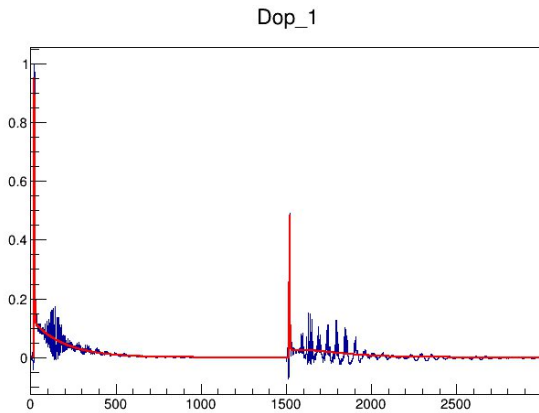
Xenon doping analysis in pDUNE

Niccolò Gallice, Henrique Souza

22/11/2020

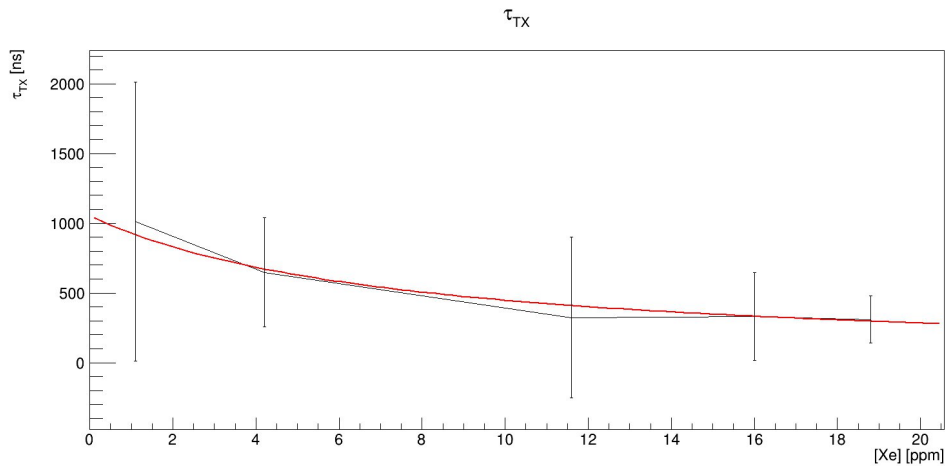
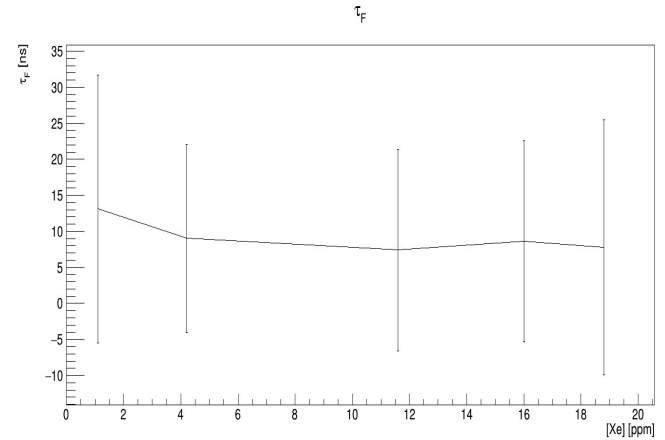
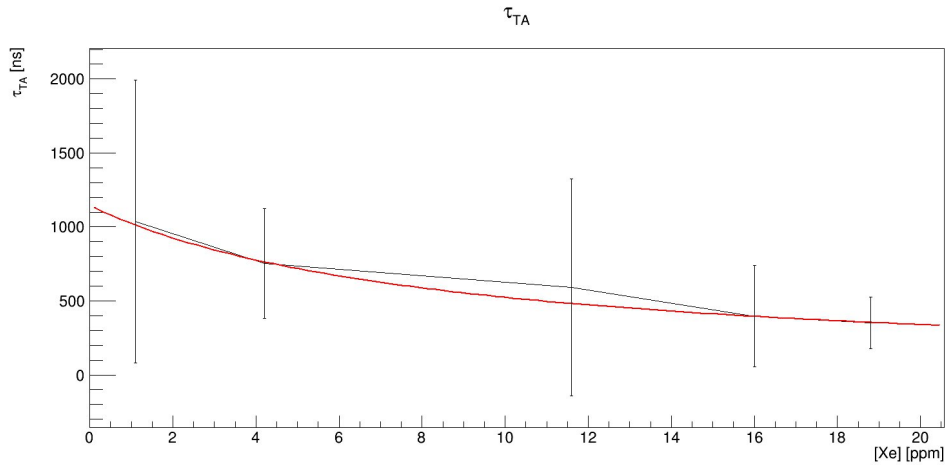


Simultaneous fit



- Q & NQ are fitted simultaneously with the same time constants

sim. fit - taus

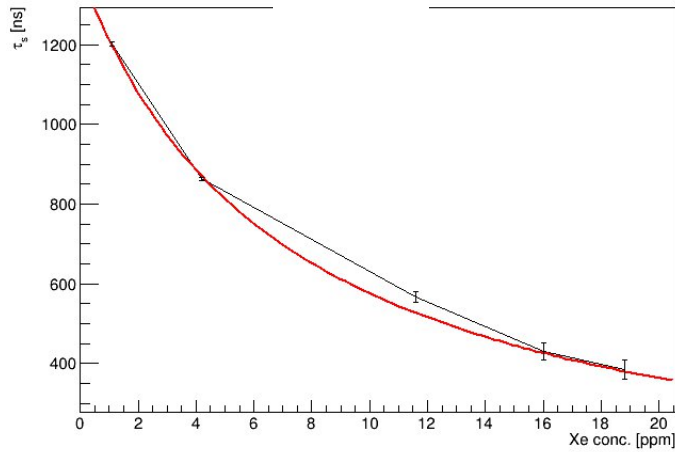


$$(p_0 + p_1[\text{Xe}])^{-1}$$

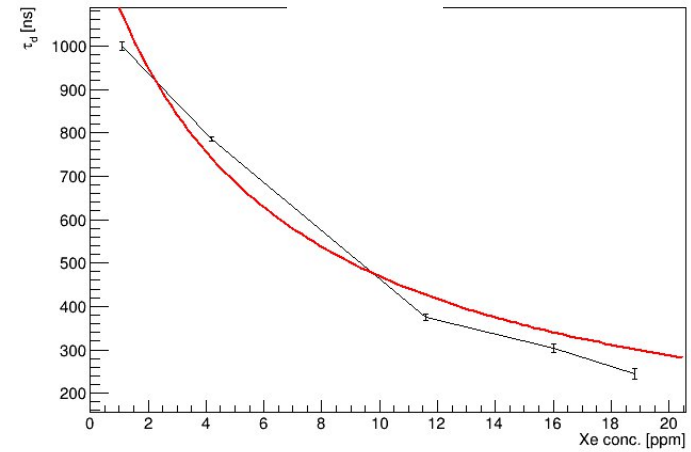
	$p_0[\mu\text{s}^{-1}]$	$p_1[\mu\text{s}^{-1} \text{ppm}^{-1}]$
τ_{TA}	0.873	0.676
τ_{TX}	0.948	0.114

Deconvolution fit - taus

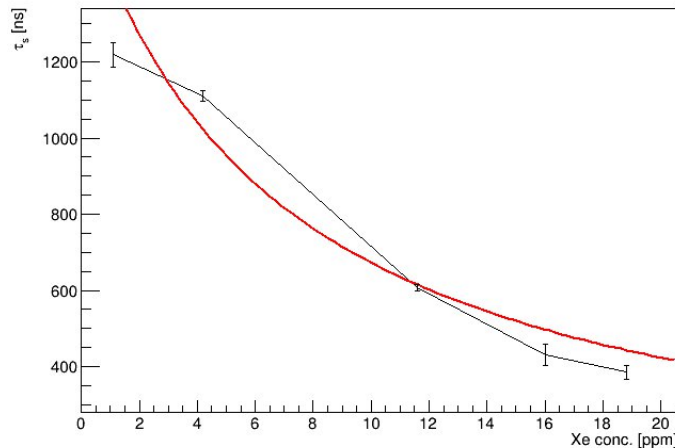
$\tau_{TA} NQ$



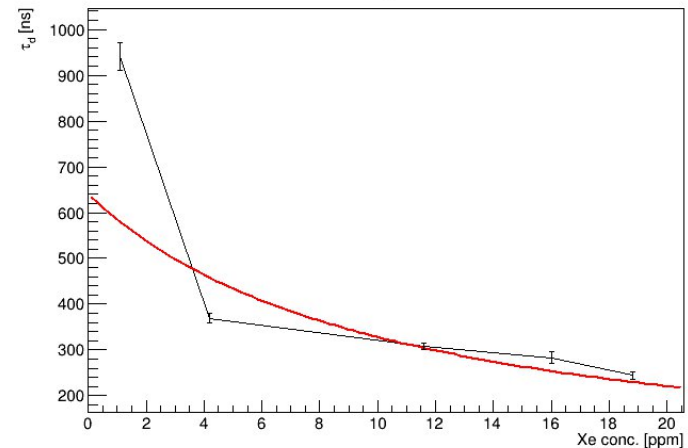
$\tau_{TX} NQ$



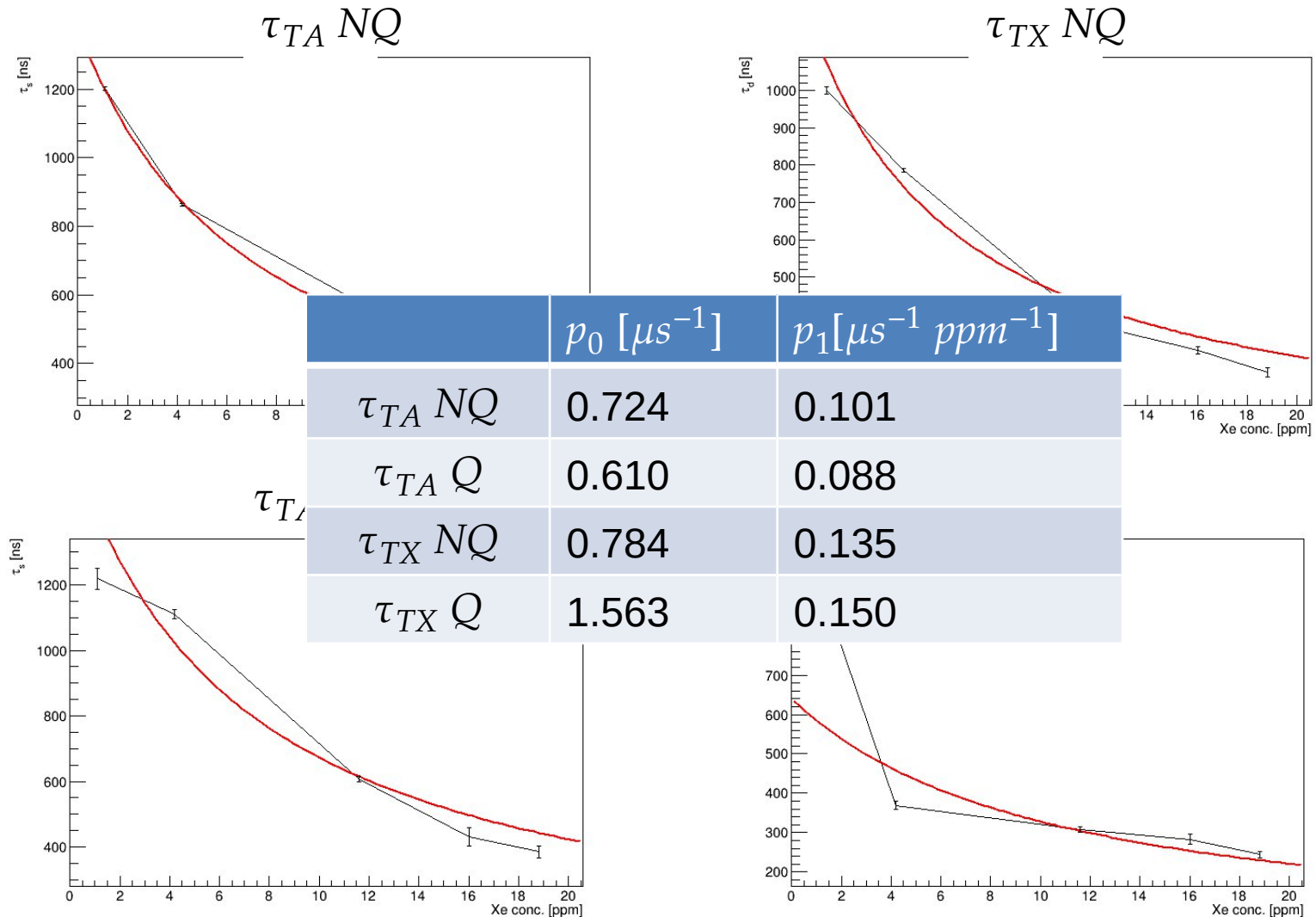
$\tau_{TA} Q$



$\tau_{TX} Q$

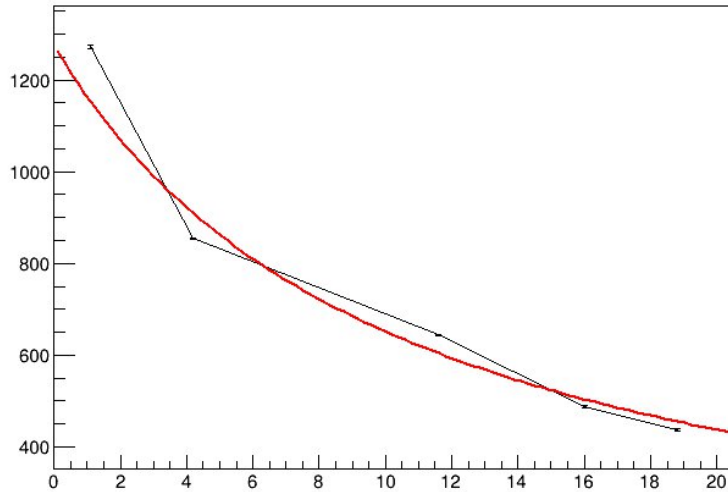


Deconvolution fit - taus

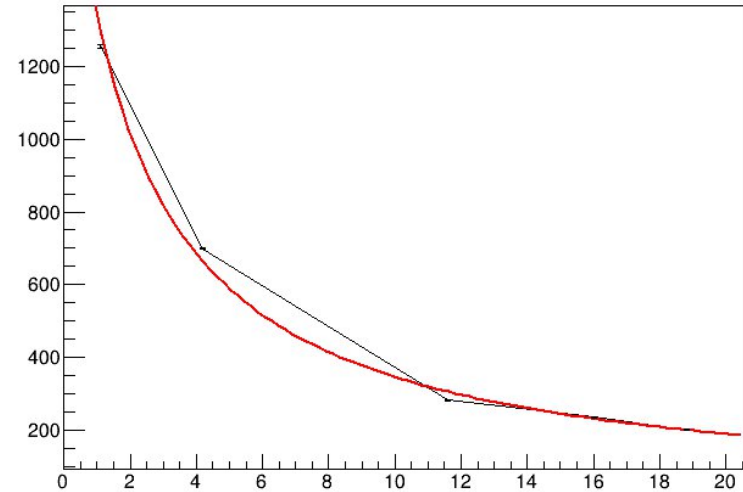


Convolution fit - taus

τ_{TA}



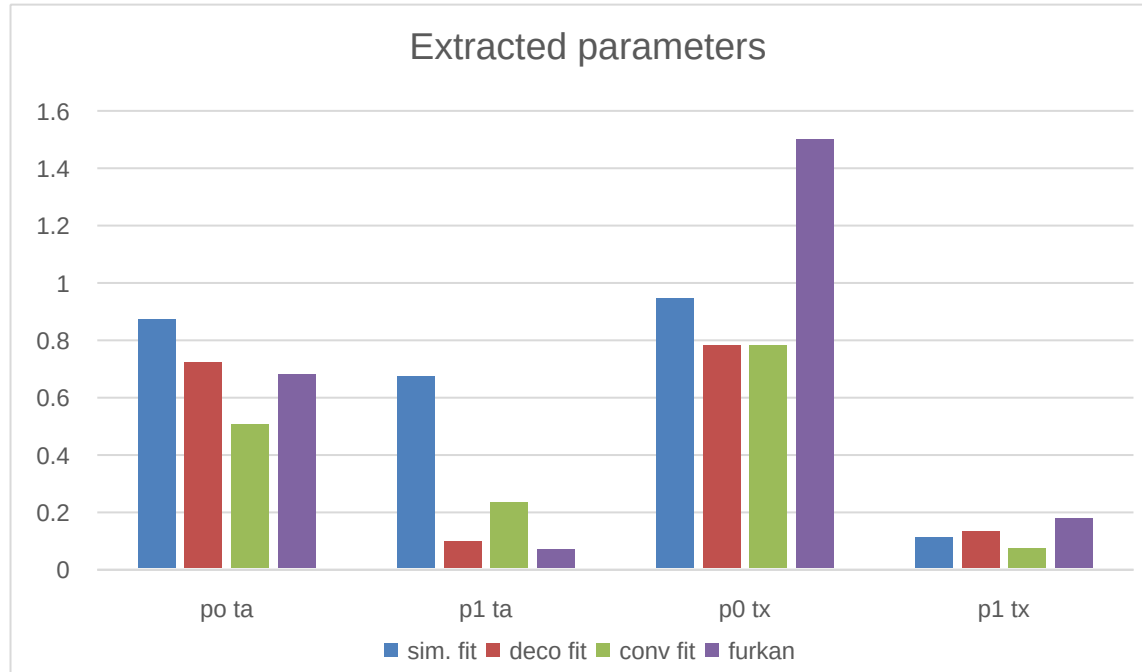
τ_{TX}



$$(p_0 + p_1[\text{Xe}])^{-1}$$

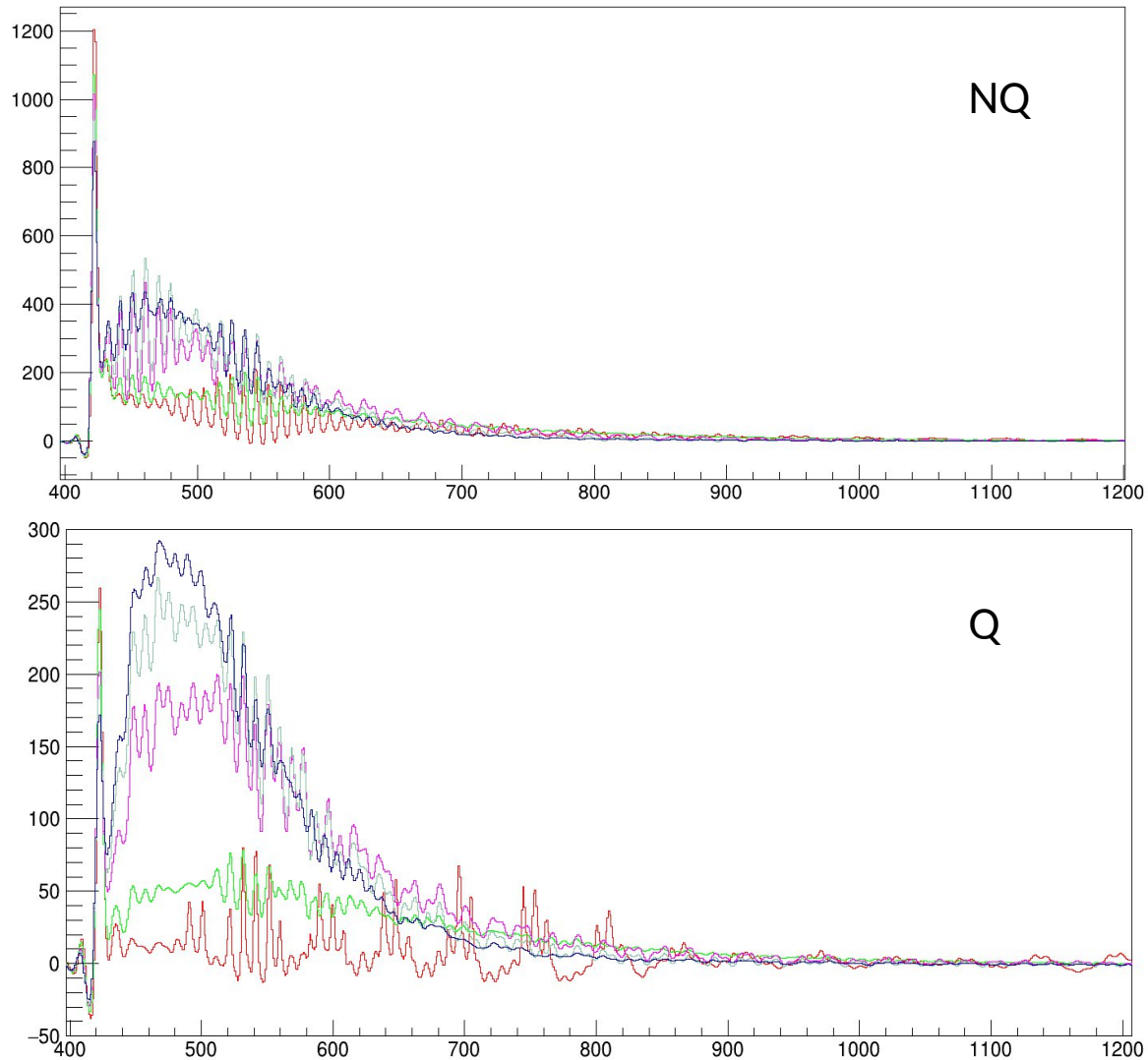
	$p_0[\mu\text{s}^{-1}]$	$p_1[\mu\text{s}^{-1} \text{ppm}^{-1}]$
τ_{TA}	0.508	0.237
τ_{TX}	0.784	0.075

Sum-up



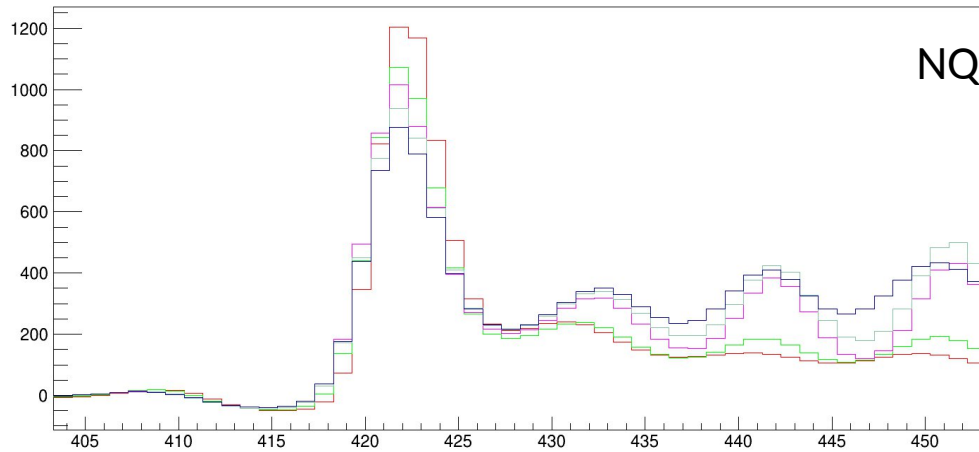
Fast component

- Dop1
- Dop2
- Dop3
- Dop4
- Dop5



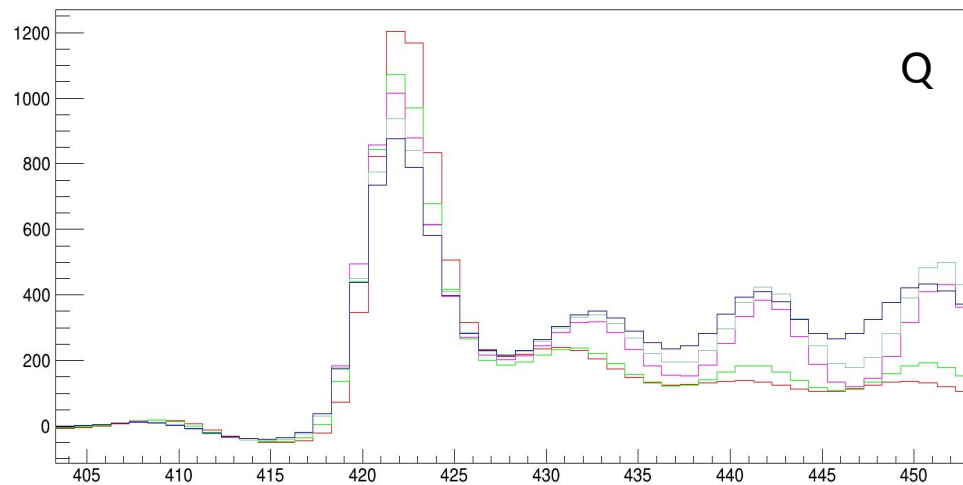
Fast component

Dec_1_NQ

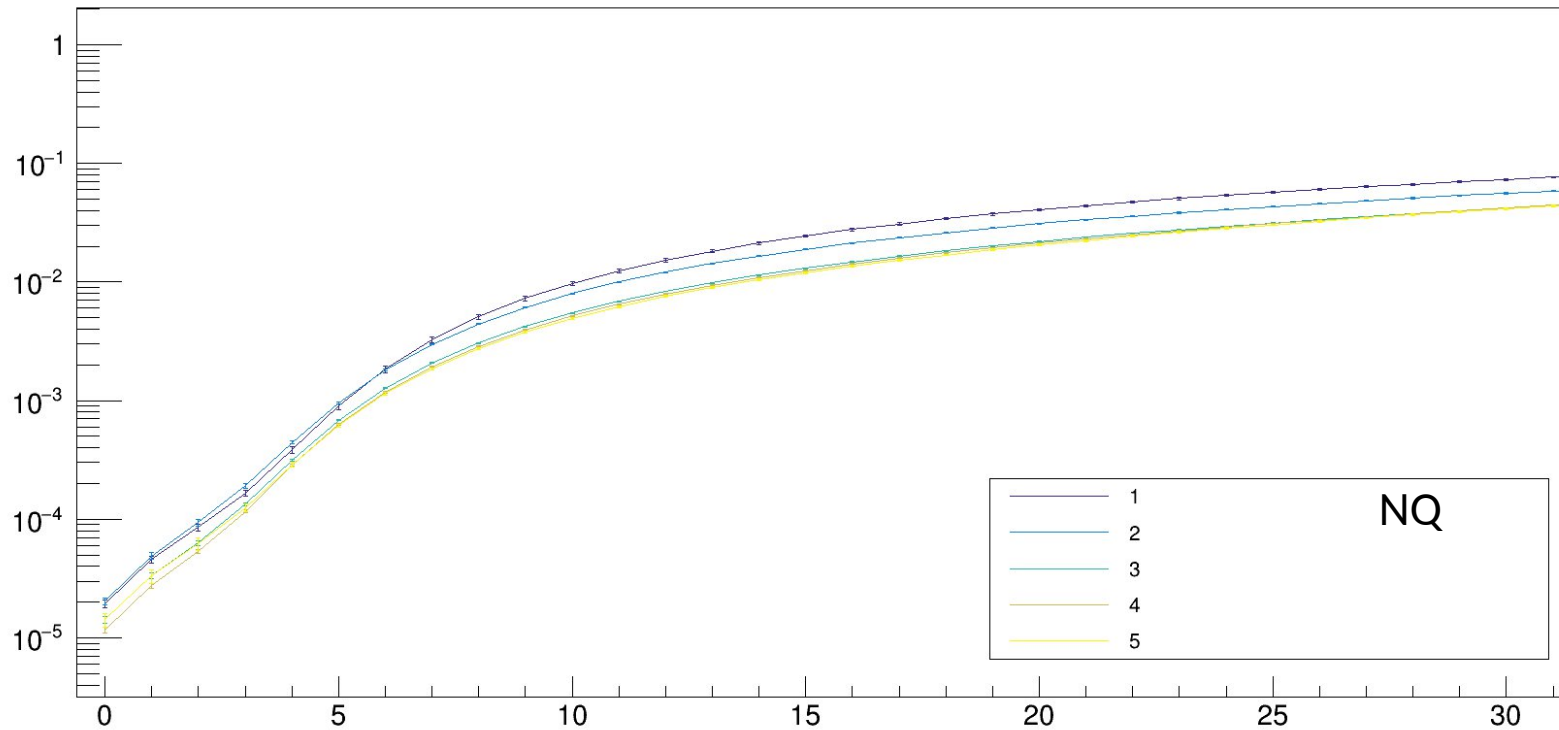


- Dop1
- Dop2
- Dop3
- Dop4
- Dop5

Dec_1_NQ



Fast component - Integral



Fast component - Integral

