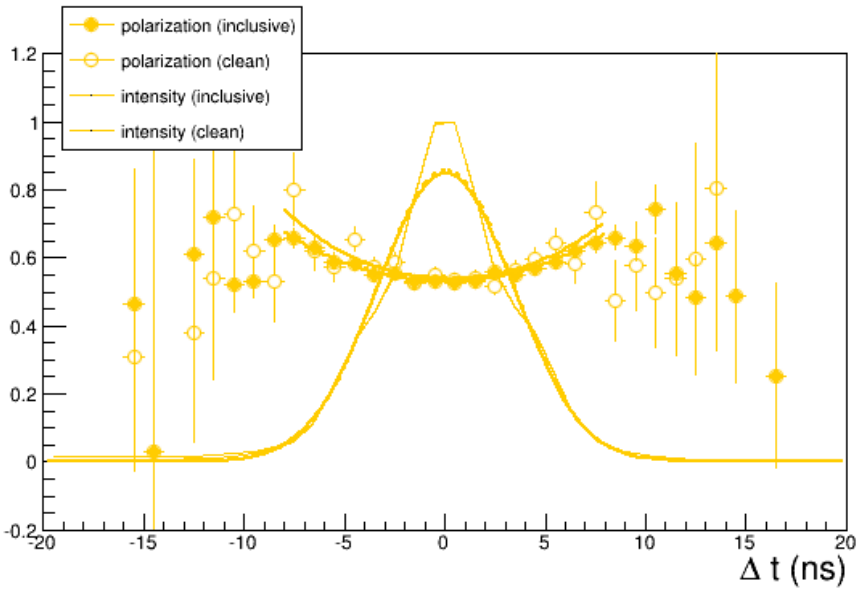
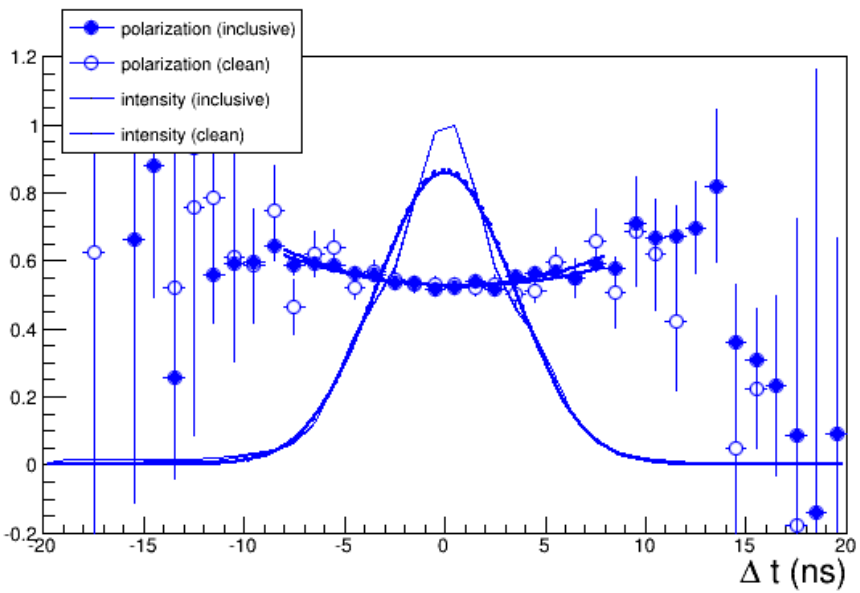
Longitudinal Polarization Profile I





$$I(\Delta t) = I_0 \exp\left(-\Delta t^2/\sigma_I^2\right)$$

$$P(\Delta t) = 1/P_0 \exp\left(-\Delta t^2/\sigma_P^2\right)$$

(*)This really is $(\Delta t - \Delta t_0)$, but $\Delta t_0 \approx 0$ within statistics

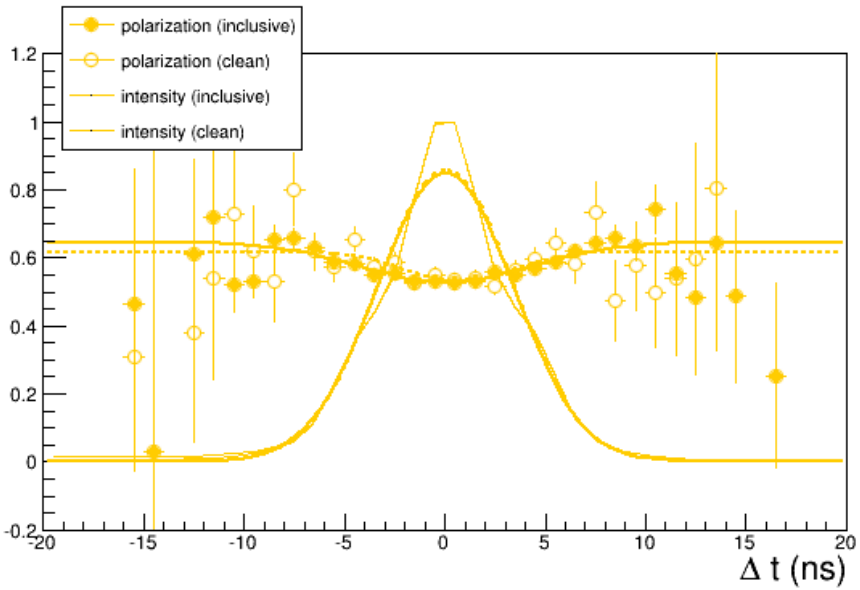
bunches	$\sigma_I\ (ns)$	$\sigma_P\ (ns)$
colliding	3.4	11.6 ± 0.5
non-colliding	3.4	10.4 ± 1.1
colliding	3.4	13.9 ± 0.9
non-colliding	3.4	15.9 ± 4.5

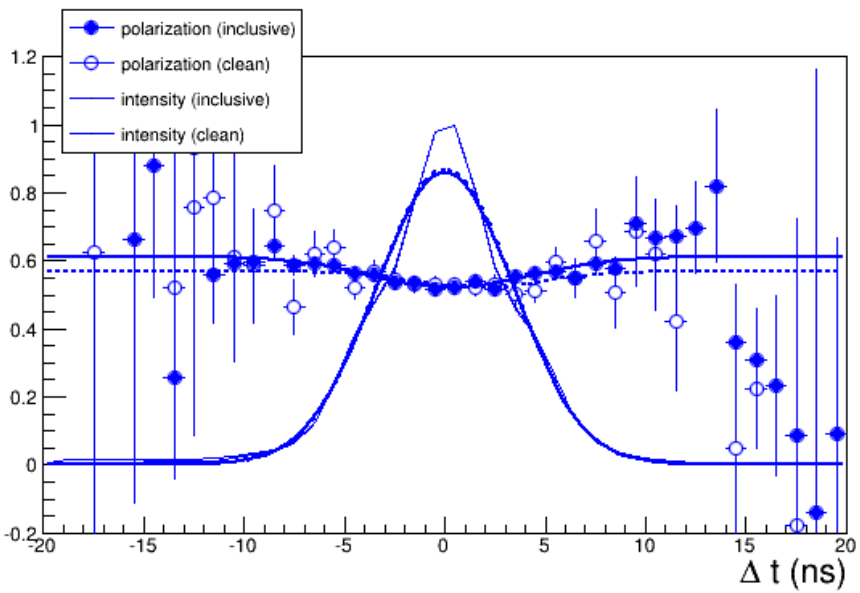
$$R = \sigma_I^2/\sigma_P^2$$

$R = 0.08$ (colliding), 0.10 (non-colliding)

$R = 0.06$ (colliding), 0.05 (non-colliding)

Longitudinal Polarization Profile II





$$I(\Delta t) = I_0 \exp\left(-\Delta t^2/\sigma_I^2\right)$$

$$P(\Delta t) = P_0 - P' \exp\left(-\Delta t^2/\sigma_P^2\right)$$

(*)This really is $(\Delta t - \Delta t_0)$, but $\Delta t_0 \approx 0$ within statistics

bunches	σ_I (ns)	P_0 (%)	P_0 (%)	σ_P (ns)
colliding	3.4	64.6 ± 2.2	11.8 ± 2.1	4.3 ± 0.6
non-colliding	3.4	61.8 ± 2.4	9.0 ± 2.6	2.7 ± 0.8
colliding	3.4	61.2 ± 2.2	9.0 ± 2.1	4.2 ± 0.9
non-colliding	3.4	56.7 ± 2.7	4.8 ± 2.8	3.1 ± 1.7