➥ "COUNTING" METHOD

flavor at **PRODUCTION**: flavor at **DECAY**:

NO MIXING: $D^{*+} \rightarrow \boxed{\pi_s^+}\, D^0$, $D^0 \rightarrow \boxed{K^-}\, \boxed{e^+}\, \nu_e$ **Right Sign**

MIXING: $D^{*+} \rightarrow \boxed{\pi_s^+}\, D^0$, $D^0 \rightarrow \overline{D^0}$, $\overline{D^0} \rightarrow \boxed{K^+}\, \boxed{e^-}\, \overline{\nu}_e$ **Wrong Sign**

non-mixed: $P(D^0 \rightarrow D^0) \propto e^{-t/\tau}$

mixed: $P(D^0 \rightarrow \overline{D^0}) \propto t^2 \cdot e^{-t/\tau}$

➥ the main observable: $\Delta m = m(\pi_s\, K\, e\, \nu_e) - m(K\, e\, \nu_e)$

➥ using Δm one counts N_{WS}, N_{RS} $\rightarrow$ mixing parameter r_D

$$r_D = \frac{N_{WS}}{N_{RS}} \approx \frac{1}{2}\left(x_D^2 + y_D^2\right), \quad x_D = \frac{\delta m}{\Gamma} \qquad y_D = \frac{\delta\Gamma}{2\Gamma}$$

➥ clean, but one has to reconstruct the missing neutrino