

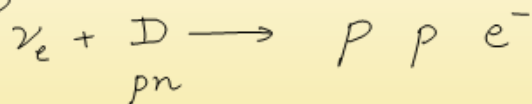
SNO

Heavy water D_2O D ~~⊗~~ e^-

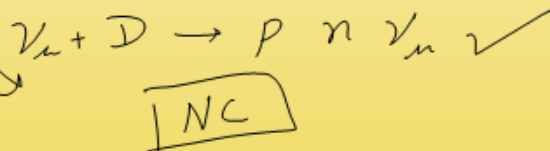
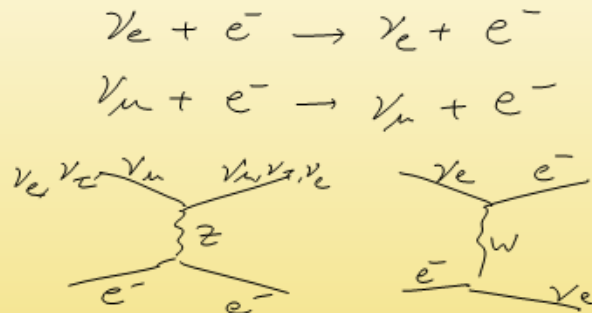
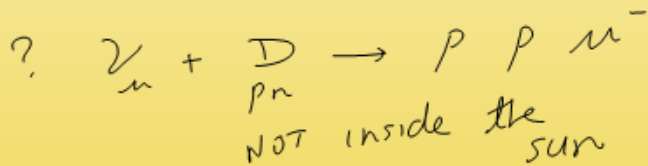
$$\sigma(\nu_e \bar{e}) > \sigma(\nu_{\mu} e)$$

$$\approx \sigma(\nu_e \bar{e}) \approx 6 \sigma(\nu_{\mu} e)$$

CC



NC



Water Cherenkov

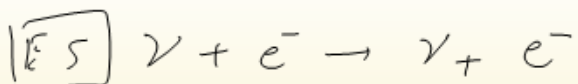
H O
X X e^-

$\nu_e \longrightarrow \sigma(\nu_e e^-)$

$\nu_\mu \longrightarrow \sigma(\nu_\mu e^-)$

$$N = \Phi_{\nu_e} \sigma(\nu_e e^-) + \Phi_{\nu_\mu} (\sigma(\nu_\mu e^-) + \Phi_{\nu_\tau} \sigma(\nu_\tau e^-))$$

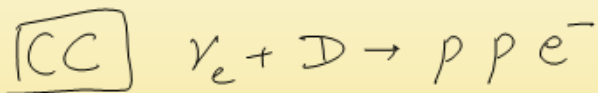
$$= \Phi_{\nu_e} \sigma(\nu_e e^-) + \frac{1}{6} (\Phi_{\nu_\mu} + \Phi_{\nu_\tau}) \sigma(\nu_e e^-)$$



ES \rightarrow elastic scattering

$$\Phi_{\nu_e} + \frac{1}{6} (\Phi_{\nu_m} + \Phi_{\nu_\tau})$$

also water Cherenkov



$$\Phi_{\nu_e}$$

(also radiochemical)



$$\Phi_{\nu_e} + \Phi_{\nu_m} + \Phi_{\nu_\tau}$$

$D_2O \rightarrow$ sensitive to 3 combinations of Φ_{ν_e} Φ_{ν_m} Φ_{ν_τ}