

$$\int Poiss.(n, \langle n_\nu(E_\nu, r) \rangle) P(E_\nu) dE_\nu \times$$

$$P_{E_{GW}} \left(\frac{r_{GW}^2 \rho^2}{k_0^2} \right) r_{GW}^2 \times$$

$$(t_\nu, t_{GW} \text{ overlap integral}) \times$$

$$(spatial \text{ overlap})$$