

INTERACTION PICTURE

$$|\psi(t)\rangle_I = e^{iH_0 t} |\psi(t)\rangle_S$$

$$\mathcal{O}_I(\vec{x}, t) = e^{iH_0 t} \mathcal{O}_S(\vec{x}) e^{-iH_0 t}$$

$$i \frac{d|\psi\rangle_I}{dt} = H_I(\vec{x}, t) |\psi\rangle_I$$