

Starting From 56:30, continuing 2011-11.
Scattering Theory.

$$H = \underbrace{\frac{p^2}{2m}}_{H_0} + V(q) \quad V \rightarrow 0 \text{ rapidly enough.}$$

Ψ_t^{in} a solution of the free Schrödinger Eq'n

$$= e^{-iH_0 t} |\Psi_0^{\text{in}}\rangle$$

$$\lim_{t \rightarrow -\infty} \|\Psi_t - \Psi_t^{\text{in}}\| = 0$$

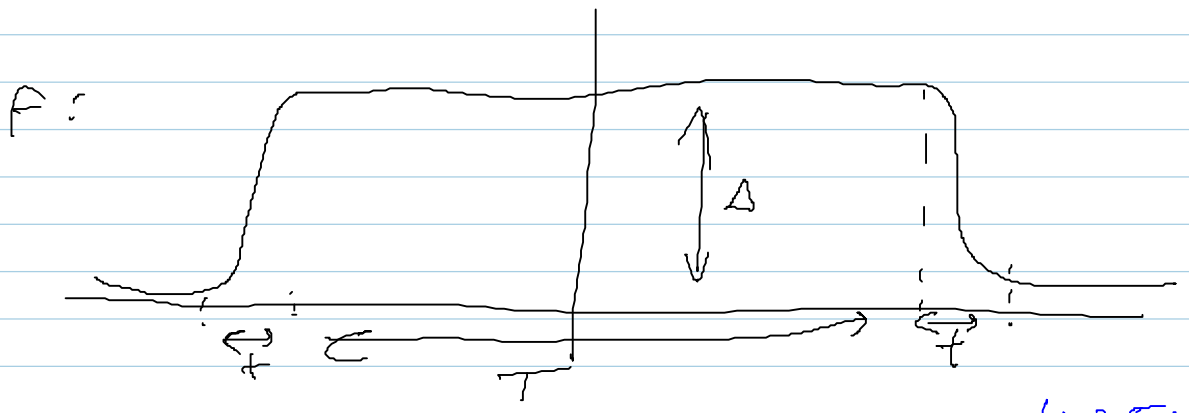
$$\lim_{t \rightarrow \infty} \|\Psi_t - \Psi_t^{\text{out}}\| = 0$$

$$\langle \phi | S | \psi \rangle = \langle \psi^{\text{out}} | \psi^{\text{in}} \rangle$$

$$S S^* = S^* S = I, \quad \text{if } H \text{ is } t\text{-indep}$$

$$[S, H_0] = 0$$

$$H_I(t) \longmapsto F(t, T, \Omega) H_I$$



1:25:00