Lecture 12

Relativistic Wave Equations continued

Lets look at the Schrodinger Equation

$$i\frac{d}{dt}\psi = -\left(\frac{\nabla^2}{2m} + V\right)\psi$$

Problems - Conservation of non-relativistic energy.

$E \leftrightarrow i\frac{d}{dt}$ and $p \leftrightarrow -i\nabla$

$\Rightarrow$ Schrodinger Equation $E = \frac{p^2}{2m} + V$