

Classical

$$m \frac{d^2 x(t)}{dt^2} = - \frac{\partial V(x)}{\partial x}$$

Quantum

$$i \hbar \frac{\partial \psi(x, t)}{\partial t} = - \frac{\hbar^2}{2m} \frac{\partial^2 \psi(x, t)}{\partial x^2} + V(x) \psi(x, t)$$

potential energy

