

L. De Broglie :

Every particle of momentum p is associated with a wave

with $\lambda = h/p = \text{wave length.}$

where $\left\{ \begin{array}{l} h = \text{Planck's constant} = 6.6 \times 10^{-34} \text{ J}\cdot\text{sec} \\ \vec{p} = \text{momentum} = m\vec{v} \end{array} \right.$

Particles are WAVES!
... with very small wavelengths.