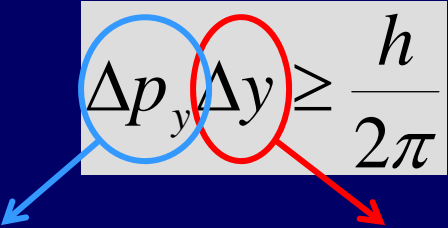


Heisenberg Uncertainty Principle

Recall: Quantum Mechanics tells us nothing is certain, everything is probability



The diagram shows the Heisenberg Uncertainty Principle equation: $\Delta p_y \Delta y \geq \frac{h}{2\pi}$. The term Δp_y is circled in blue, and a blue arrow points from this circle to the text "Uncertainty in momentum (along y)". The term Δy is circled in red, and a red arrow points from this circle to the text "Uncertainty in position (along y)".

$$\Delta p_y \Delta y \geq \frac{h}{2\pi}$$

Uncertainty in momentum (along y)

Uncertainty in position (along y)

Rough idea: if we know momentum very precisely, we lose knowledge of location, and vice versa.