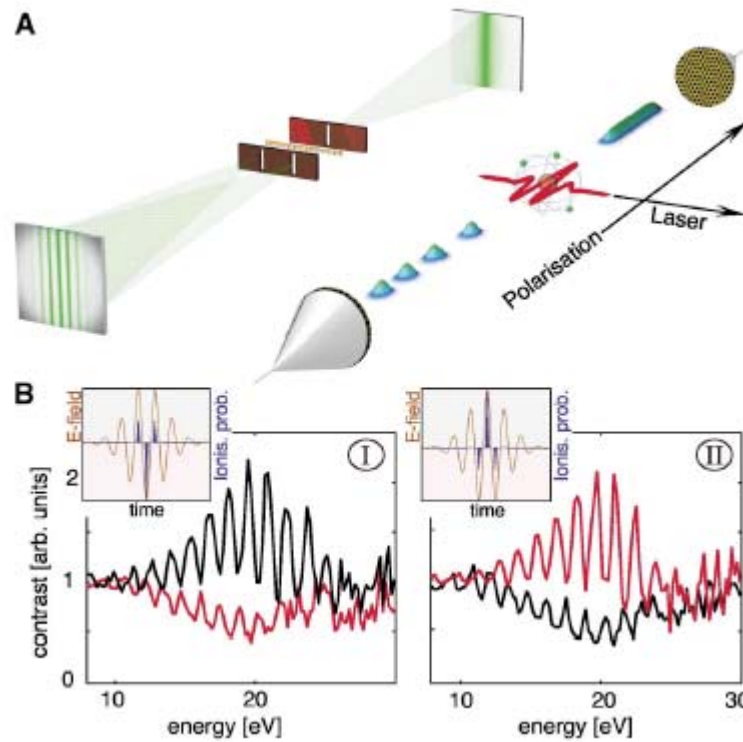


# The Temporal Double-Slit Experiment



Temporal representation:  $|\Psi\rangle = \frac{1}{\sqrt{2}}[|t_1\rangle + |t_2\rangle]$

Energy representation:  $\langle E|\Psi\rangle = \frac{1}{\sqrt{2}}[\langle E|t_1\rangle + \langle E|t_2\rangle] = \frac{1}{\sqrt{2}}\left[\exp\left(\frac{iEt_1}{\hbar}\right) + \exp\left(\frac{iEt_2}{\hbar}\right)\right]$

$$t_1 := 0 \quad t_2 := 100 \quad \delta := 20 \quad \Psi(E) := \frac{\int_{t_1 - \frac{\delta}{2}}^{t_1 + \frac{\delta}{2}} \frac{1}{\sqrt{2 \cdot \pi}} \cdot \exp(i \cdot E \cdot t) dt + \int_{t_2 - \frac{\delta}{2}}^{t_2 + \frac{\delta}{2}} \frac{1}{\sqrt{2 \cdot \pi}} \cdot \exp(i \cdot E \cdot t) dt}{\sqrt{2}}$$

