Wave function for the entangled state using 'ket' notation

Horizonal idler

Vertical signal

Vertical idler
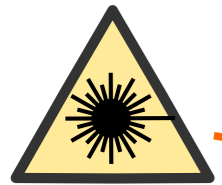
Horizontal signal

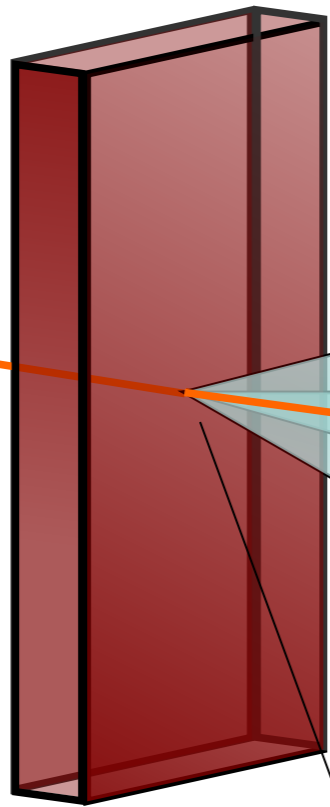$$|\Psi\rangle = 1/\sqrt{2}(|H_i\rangle|V_s\rangle + e^{i\phi}|V_i\rangle|H_s\rangle)$$
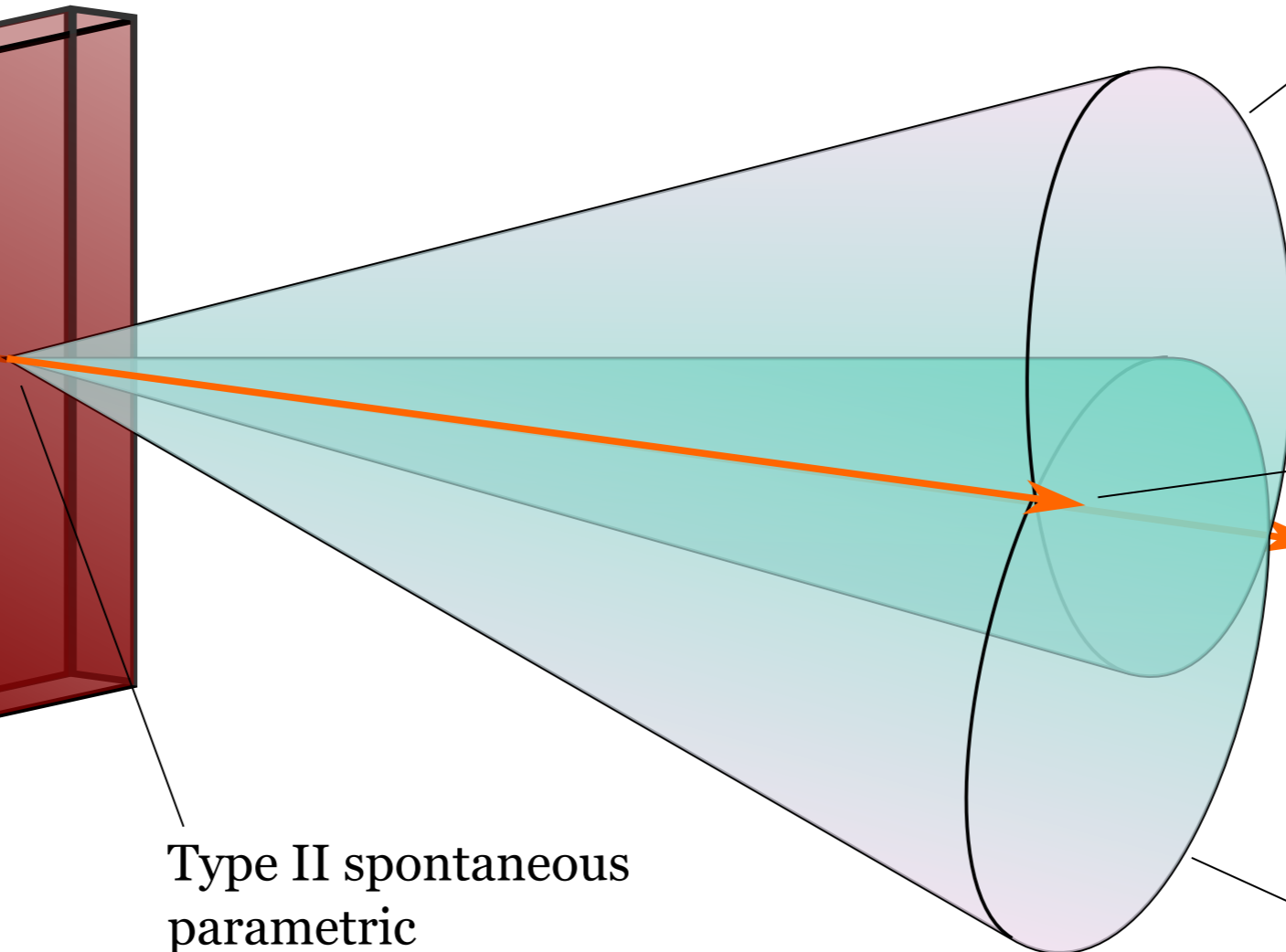
Normalisation

Phase

Vertically polarised photons

Pump

Entangled photons: 'signal' and 'idler'

Nonlinear crystal

Type II spontaneous parametric down-conversion

Horizontally polarised photons