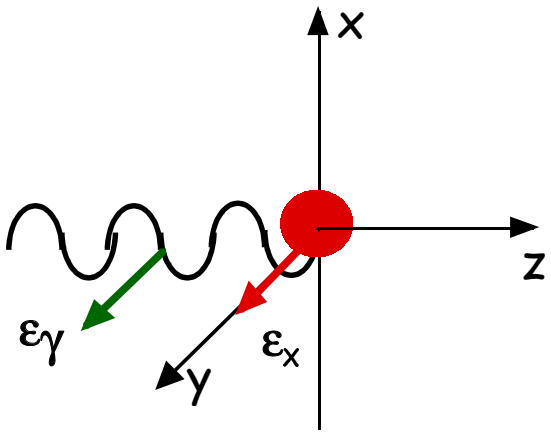
Disentangling the exotic wave

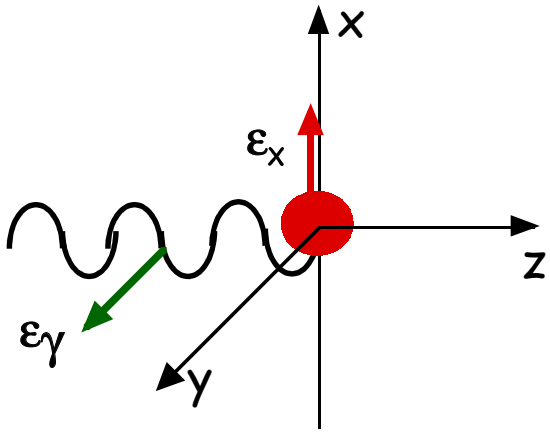
Linear photon polarization → Correlation between polarization and naturality of the produced resonance

parity



Unnatural

a_1, π_2

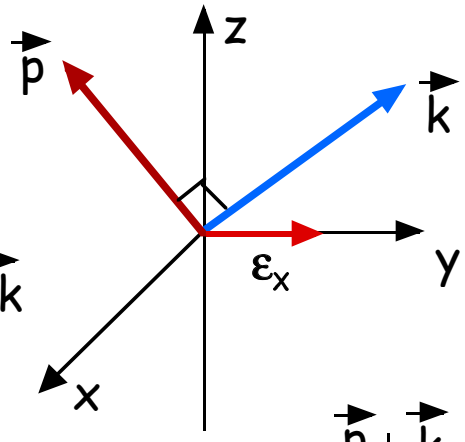


Natural

a_2, π_1

$\vec{X} \to \vec{\rho}^{\,0}(-k)\,\pi^+(k) \to (\pi^+(p)\,\pi^-(-p))_{-k}\,\pi^+(k)$

Polarization of the resonance → Correlation between $\vec{p}, \vec{k}$



e.g. ε_γ = y :

$\vec{p} \perp \vec{k}$

$$W_{\pi_2}(\Omega_{\mathbf{k}}, \Omega_{\mathbf{p}}) = (p_y k_z + p_z k_y)^2$$

$$W_{\hat{\rho}_2}(\Omega_{\mathbf{k}}, \Omega_{\mathbf{p}}) = (p_y k_z - p_z k_y)^2$$

>> Pure π_1 wave ! <<