



Solder flux

Interference of s -wave $\pi\pi$ Primakoff photo-
production with p -wave ρ photo-production

$$\rho^0 \rightarrow \pi^+ \pi^- \quad W(\theta, \Psi) = \frac{3}{8\pi} \sin^2 \theta_\pi (1 + P_\gamma \cos 2\Psi_\pi)$$

$$\frac{d^3 \sigma_\rho}{d\Omega_\rho d\Omega_\pi^{cm} dM_\rho} = W(\theta, \Psi) \frac{d^2 \sigma_\rho}{d\Omega_\rho dM_\rho}$$

$$\gamma\gamma \rightarrow \pi^+ \pi^- \quad W(\theta, \Psi) = \frac{1}{4\pi}$$

$$\frac{d^3 \sigma_{\text{Prim}}}{d\Omega_{\pi\pi} d\Omega_\pi^{cm} dM_{\pi\pi}} = W(\theta, \Psi) \frac{d^2 \sigma_{\text{Prim}}}{d\Omega_{\pi\pi} dM_{\pi\pi}} (1 + P_\gamma \cos 2\phi_{\pi\pi})$$

$$\begin{aligned}
\frac{d^3\sigma}{dM_{\pi\pi} d\Omega_{\pi}^{cm} d\Omega_{\pi\pi}} &= (1 - P_{\gamma}) \left| \sqrt{\frac{d^3\sigma_{Prim}}{d\Omega_{\pi\pi} d\Omega_{\pi}^{cm} dM_{\pi\pi}} \Big|_{P=0}} + e^{i\psi} \sqrt{\frac{d^3\sigma_{\rho}}{d\Omega_{\rho} d\Omega_{\pi}^{cm} dM_{\rho}} \Big|_{P=0}} \right|^2 \\
&+ P_{\gamma} \left| \sqrt{\frac{d^3\sigma_{Prim}}{d\Omega_{\pi\pi} d\Omega_{\pi}^{cm} dM_{\pi\pi}} \Big|_{P=1}} + e^{i\psi} \sqrt{\frac{d^3\sigma_{\rho}}{d\Omega_{\rho} d\Omega_{\pi}^{cm} dM_{\rho}} \Big|_{P=1}} \right|^2
\end{aligned}$$

$$\frac{d^3\sigma}{dM_{\pi\pi} d\Omega_{\pi}^{cm} d\Omega_{\pi\pi}} = (1 - P_{\gamma}) \left| \sqrt{\frac{1}{4\pi} \frac{d^2\sigma_{Prim}}{dM_{\pi\pi} d\Omega_{\pi\pi}}} + e^{i\psi} \sin\theta_{\pi} \sqrt{\frac{3}{8\pi} \frac{d^2\sigma_{\rho}}{dM_{\rho} d\Omega_{\rho}}} \right|^2 +$$

$$P_{\gamma} \left| \cos\phi_{\pi\pi} \sqrt{\frac{1}{2\pi} \frac{d^2\sigma_{Prim}}{dM_{\pi\pi} d\Omega_{\pi\pi}}} + e^{i\psi} \sin\theta_{\pi} \cos\Psi_{\pi} \sqrt{\frac{3}{4\pi} \frac{d^2\sigma_{\rho}}{dM_{\rho} d\Omega_{\rho}}} \right|^2$$