

Analytic continuation to time-like region

$$s \rightarrow s + i \sqrt{s} \Gamma(s)$$

$$\Gamma(s) = \Gamma \left[\frac{\rho(s)}{\rho(M)} \right]^{2J+1}$$

$$\rho(s) = \left(1 - \frac{4m_\pi^2}{s} \right)^{1/2} = p / \sqrt{s}$$