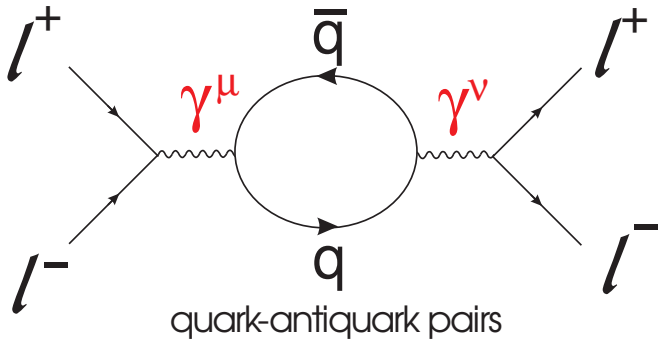
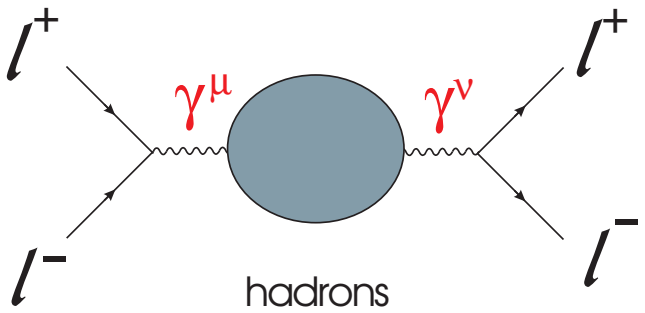
# Dilepton Rates (I)

partonic phase




hadronic phase




rate: $M^2 \equiv q^2 > 0$

$$\frac{dN_{l^+l^-}}{d^4x d^4q} = L^{\mu\nu}(q)\Pi^V_{\mu\nu}(q)$$

$$L^{\mu\nu}(q) = -\frac{\alpha^2}{3\pi^2 q^2}\left(g^{\mu\nu} - \frac{q^\mu q^\nu}{q^2}\right)$$

$$\Pi^V_{\mu\nu}(q) = \Pi^V(q^2)\left(g_{\mu\nu} - \frac{q_\mu q_\nu}{q^2}\right)$$