

Lagrangian density

$$\gamma \mathcal{B}_\alpha \mathcal{B}^\alpha + \beta \partial_\alpha \mathcal{B}^\alpha \partial_\beta \mathcal{B}^\beta + \alpha \partial_\beta \mathcal{B}_\alpha \partial^\beta \mathcal{B}^\alpha$$

Added source term: $\mathcal{B}^\alpha \mathcal{J}_\alpha$

$$\mathcal{B}_{0+}^{\#1}$$

$$\mathcal{B}_{0+}^{\#1} \dagger \boxed{\gamma + (\alpha + \beta) k^2}$$

$$\mathcal{J}_{0+}^{\#1}$$

$$\mathcal{J}_{0+}^{\#1} \dagger \boxed{\frac{1}{\gamma + (\alpha + \beta) k^2}}$$

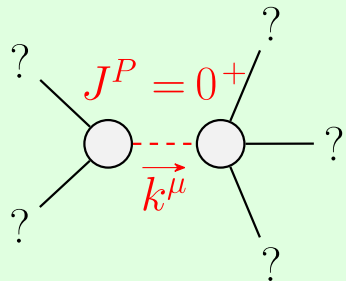
$$\mathcal{B}_{1-}^{\#1}$$

$$\mathcal{B}_{1-}^{\#1} \dagger \boxed{\gamma + \alpha k^2}$$

$$\mathcal{J}_{1-}^{\#1}$$

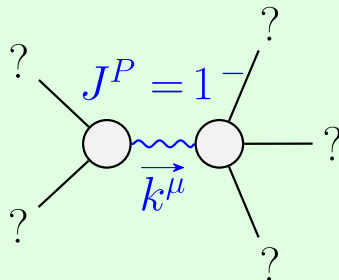
$$\mathcal{J}_{1-}^{\#1} \dagger \boxed{\frac{1}{\gamma + \alpha k^2}}$$

(No source constraints)



Massive particle

| | |
|----------------|--------------------------------------|
| Pole residue: | $\frac{1}{\alpha + \beta} > 0$ |
| Polarisations: | 1 |
| Square mass: | $-\frac{\gamma}{\alpha + \beta} > 0$ |
| Spin: | 0 |
| Parity: | Even |



Massive particle

| | |
|----------------|------------------------------|
| Pole residue: | $-\frac{1}{\alpha} > 0$ |
| Polarisations: | 3 |
| Square mass: | $-\frac{\gamma}{\alpha} > 0$ |
| Spin: | 1 |
| Parity: | Odd |

Unitarity conditions

(Unitarity is demonstrably impossible)

(No massless particles)