

Particle spectrograph

Wave operator and propagator

$S ==$

$$\iiint (\delta \mathcal{B}_{\alpha\beta} \mathcal{B}^{\alpha\beta} + \mathcal{B}^{\alpha\beta} \mathcal{J}_{\alpha\beta} + \frac{1}{3} \gamma (-2 \partial_\beta \mathcal{B}_{\alpha\chi} + \partial_\chi \mathcal{B}_{\alpha\beta}) \partial^\chi \mathcal{B}^{\alpha\beta}) [t, x, y, z] dz$$

$dy dx dt$

$\mathcal{J}_{1^+}^{\#1} \dagger^{\alpha\beta}$

$\frac{1}{\delta + \frac{\gamma k^2}{3}}$	0
0	$\frac{1}{\delta}$

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

$\mathcal{B}_{1^+}^{\#1} \dagger^{\alpha\beta}$

$\delta + \frac{\gamma k^2}{3}$	0
0	δ

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

(No source constraints)

Massive and massless spectra

Poleresidue:	$\frac{3}{\gamma} > 0$
Square mass:	$+\frac{3\delta}{\gamma} > 0$
Spin:	1
Parity:	Even

Massive particle

(No massless particles)

Unitarity conditions

$\gamma > 0 \ \&\& \ \delta < 0$