Particle spectrograph

Wave operator and propagator

$$\mathcal{S} == \iiint\!\!\int (\delta\, \mathcal{B}_{\alpha\beta}\, \mathcal{B}^{\alpha\beta} + \mathcal{B}^{\alpha\beta}\, \mathcal{T}_{\alpha\beta} + \frac{1}{3}\gamma\,(-2\,\partial_\beta \mathcal{B}_{\alpha\chi} + \partial_\chi \mathcal{B}_{\alpha\beta})\,\partial^\chi \mathcal{B}^{\alpha\beta})[t, x, y, z]\, dz\, dy\, dx\, dt$$

	$\mathcal{T}^{\#1}_{1^+\,\alpha\beta}$	$\mathcal{T}^{\#1}_{1^-\,\alpha}$
$\mathcal{T}^{\#1}_{1^+}\dagger^{\alpha\beta}$	$\frac{1}{\delta + \frac{\gamma k^2}{3}}$	0
$\mathcal{T}^{\#1}_{1^-}\dagger^{\alpha}$	0	$\frac{1}{\delta}$

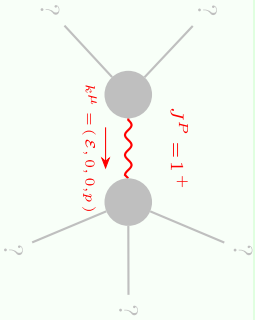
	$\mathcal{B}^{\#1}_{1^+\,\alpha\beta}$	$\mathcal{B}^{\#1}_{1^-\,\alpha}$
$\mathcal{B}^{\#1}_{1^+}\dagger^{\alpha\beta}$	$\delta + \frac{\gamma k^2}{3}$	0
$\mathcal{B}^{\#1}_{1^-}\dagger^{\alpha}$	0	δ

(No source constraints)

Massive and massless spectra

Pole residue:	Square mass:	Spin:	Parity:
$\frac{3}{\gamma} > 0$	$-\frac{3\delta}{\gamma} > 0$	1	Even

Massive particle



(No massless particles)

Unitarity conditions

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