Particle spectrograph

Wave operator and propagator

Spin-parity form	Covariant form	Multiplicities
$\overset{\#1}{1^{-}}\mathcal{T}^{\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\mathcal{T}^{\beta\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\mathcal{T}^{\alpha\beta}$	3
Total expected gauge generators:		3

	$\overset{\#1}{0^{+}}h$	$\overset{\#2}{0^{+}}h$
$\overset{\#1}{0^{+}}h\dagger$	$\alpha\, k^2$	$\frac{1}{2}\sqrt{3}\,(\alpha-\beta)\,k^2$
$\overset{\#2}{0^{+}}h\dagger$	$\frac{1}{2}\sqrt{3}\,(\alpha-\beta)\,k^2$	$(\alpha-\beta)\,k^2$

	$\overset{\#1}{2^{+}}\mathcal{T}_{\alpha\beta}$
$\overset{\#1}{2^{+}}\mathcal{T}\dagger^{\alpha\beta}$	$-\frac{2}{\alpha\, k^2}$

	$\overset{\#1}{1^{-}}\mathcal{T}_{\alpha}$
$\overset{\#1}{1^{-}}\mathcal{T}\dagger^{\alpha}$	0

	$\overset{\#1}{2^{+}}h_{\alpha\beta}$
$\overset{\#1}{2^{+}}h\dagger^{\alpha\beta}$	$-\frac{\alpha\, k^2}{2}$

	$\overset{\#1}{1^{-}}h_{\alpha}$
$\overset{\#1}{1^{-}}h\dagger^{\alpha}$	0

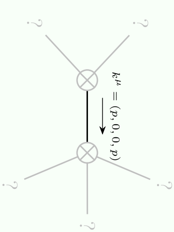
	$\overset{\#1}{0^{+}}\mathcal{T}$	$\overset{\#2}{0^{+}}\mathcal{T}$
$\overset{\#1}{0^{+}}\mathcal{T}\dagger$	$\frac{4}{(\alpha+3\beta)\,k^2}$	$-\frac{2\sqrt{3}}{(\alpha+3\beta)\,k^2}$
$\overset{\#2}{0^{+}}\mathcal{T}\dagger$	$-\frac{2\sqrt{3}}{(\alpha+3\beta)\,k^2}$	$\frac{4\,\alpha}{(\alpha-\beta)(\alpha+3\beta)\,k^2}$

$$S == \iiiint \left(h^{\alpha\beta}\ \mathcal{T}_{\alpha\beta} - \beta\ \partial^{\beta}h^{\alpha}{}_{\alpha}\ \partial_{\chi}h_{\beta}{}^{\chi} + \frac{1}{2}\,\alpha\left(\partial_{\beta}h^{\chi}{}_{\chi}\ \partial^{\beta}h^{\alpha}{}_{\alpha} + 2\ \partial_{\alpha}h^{\alpha\beta}\ \partial_{\chi}h_{\beta}{}^{\chi} - \partial_{\chi}h_{\alpha\beta}\ \partial^{\chi}h^{\alpha\beta}\right)\right)[t, x, y, z]\, dz\, dy\, dx$$

Massive and massless spectra

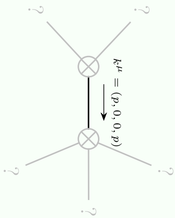
Massless particle

Pole residue:	$\frac{4+(\alpha-\beta)^2}{\alpha\,(\alpha-\beta)(\alpha+3\beta)} > 0$
Polarisations:	1



Massless particle

Pole residue:	$-\frac{1}{\alpha} > 0$
Polarisations:	2



(No particles)

Unitarity conditions