Particle spectrograph

Wave operator and propagator

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

Spin-parity form	Covariant form	Multiplicities
$^{\#2}_{0^+}\mathcal{T} == 0$	$\partial_\beta \partial_\alpha \mathcal{T}^{\alpha\beta} == 0$	1
$^{\#1}_{1^-}\mathcal{T}^\alpha == 0$	$\partial_\chi \partial_\beta \partial^\alpha \mathcal{T}^{\beta\chi} == \partial_\chi^\chi \partial_\beta \mathcal{T}^{\alpha\beta}$	3
Total expected gauge generators:		4

$^{\#1}_{0^+}h\dagger^{\#1}_{0^+}h$ | $^{\#2}_{0^+}h^{\#1}_{0^+}\phi$ | $^{\#1}_{1^-}\mathcal{T}^\alpha$

$^{\#1}_{0^+}h\dagger$	$\alpha\, k^2$	0
$^{\#2}_{0^+}h$	0	0
$^{\#1}_{0^+}\phi\dagger$	0	$\beta\, k^2$

$^{\#1}_{0^+}\mathcal{T}\dagger^{\#2}_{0^+}\mathcal{T}^{\#1}_{0^+}\mathcal{T}$

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

$^{\#1}_{2^+}\mathcal{T}_{\alpha\beta}$

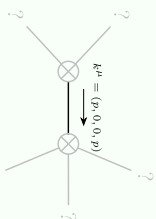
$^{\#1}_{2^+}\mathcal{T}\dagger^{\alpha\beta}$	$-\frac{2}{\alpha\, k^2}$
$^{\#1}_{1^-}\mathcal{T}_\alpha$	0

$^{\#1}_{2^+}h_{\alpha\beta}$ | $^{\#1}_{1^-}h\dagger^\alpha$

$^{\#1}_{2^+}h\dagger^{\alpha\beta}$	$-\frac{\alpha\, k^2}{2}$	0
$^{\#1}_{1^-}h_\alpha$		

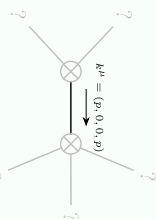
Massive and massless spectra

(No particles)



Massless particle

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



Massless particle

Pole residue:	$\frac{1}{\beta} > 0$
Polarisations:	1

Unitarity conditions