Particle spectrograph

Wave operator and propagator

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

	$0^{+}\,{}^{\#1}h$	$0^{+}\,{}^{\#2}h$
$0^{+}\,{}^{\#1}h^{\dagger}$	$4\alpha k^2$	$\sqrt{3}\alpha k^2$
$0^{+}\,{}^{\#2}h^{\dagger}$	$\sqrt{3}\alpha k^2$	0

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

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

	$2^{+}\,{}^{\#1}h_{\alpha\beta}$
$2^{+}\,{}^{\#1}h^{\dagger\,\alpha\beta}$	αk^2

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

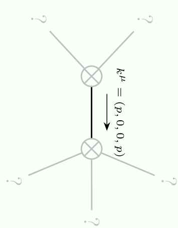
	$1^{-}\,{}^{\#1}h_{\alpha}$
$1^{-}\,{}^{\#1}h^{\dagger\,\alpha}$	0

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

Massive and massless spectra

Massless particle

Pole residue:	$\frac{1}{\alpha} > 0$
Polarisations:	3



(No particles)

Unitarity conditions