Particle spectrograph

Wave operator and propagator

$$\mathcal{S} == \iiiint \Big(f^{\alpha\beta}\ \tau_{\alpha\beta} - \tfrac{2}{3} c_1 \big(2\,\partial_\beta f^{\mu}{}_{\mu}\,\partial^\beta f^{\alpha}{}_{\alpha} + 2\,\partial_\beta f^{\alpha\beta}\,\partial_\mu f_{\alpha}{}^{\mu} - 4\,\partial^\beta f^{\alpha}{}_{\alpha}\,\partial_\mu f_{\beta}{}^{\mu} + 6\,\partial_\alpha f_{\beta\mu}\,\partial^\mu f^{\alpha\beta} + 3\,\partial_\alpha f_{\mu\beta}\,\partial^\mu f^{\alpha\beta} - 3\,\partial_\beta f_{\alpha\mu}\,\partial^\mu f^{\alpha\beta} - 3\,\partial_\mu f_{\alpha\beta}\,\partial^\mu f^{\alpha\beta} - 3\,\partial_\mu f_{\beta\alpha}\,\partial^\mu f^{\alpha\beta}\big)\Big)[t, x, y, z]\,dl\ z\ dl\ y\ dl\ x\ dl\ t$$

Spin-parity form	Covariant form	Multiplicities
$0^+_{\#2}\ \tau == 0$	$\partial_\beta \partial_\alpha \tau^{\alpha\beta} == 0$	1
$0^+_{\#1}\ \tau == 0$	$\partial_\beta \partial_\alpha \tau^{\alpha\beta} == \partial_\beta \partial^\beta \tau_\alpha{}^\alpha$	1
$1^+_{\#1}\ \tau^{\alpha\beta} == 0$	$\partial_\chi \partial^\alpha \tau^{\beta\chi} + \partial_\chi \partial^\beta \tau^{\chi\alpha} + \partial_\chi \partial^\chi \tau^{\alpha\beta} == \partial_\chi \partial^\alpha \tau^{\chi\beta} + \partial_\chi \partial^\beta \tau^{\alpha\chi} + \partial_\chi \partial^\chi \tau^{\beta\alpha}$	3
$1^-_{\#1}\ \tau_\alpha == 0$	$\partial_\chi \partial_\alpha \partial^\chi \tau^{\beta\chi} == \partial_\chi \partial^\chi \partial_\alpha \tau^{\beta\alpha}$	3
Total expected gauge generators:		8

$1^+_{\#1}\,\tau\dagger^{\alpha\beta}$ × $1^+_{\#1}\,\tau_{\alpha\beta}$, $1^-_{\#1}\,\tau_\alpha$, $1^-_{\#2}\,\tau_\alpha$

$1^-_{\#1}\,\tau\dagger^{\alpha}$	0	0	0
$1^-_{\#2}\,\tau\dagger^{\alpha}$	0	0	$\frac{3}{8 c_1 k^2}$

$1^+_{\#1}\,f\dagger^{\alpha\beta}$ × $1^+_{\#1}\,f_{\alpha\beta}$, $1^-_{\#1}\,f_\alpha$, $1^-_{\#2}\,f_\alpha$

$1^-_{\#1}\,f\dagger^{\alpha}$	0	0	0
$1^-_{\#2}\,f\dagger^{\alpha}$	0	0	$\frac{8 c_1 k^2}{3}$

$2^+_{\#1}\,f\dagger^{\alpha\beta}$ × $2^+_{\#1}\,f_{\alpha\beta}$

$2^+_{\#1}\,\tau\dagger^{\alpha\beta}$	$\frac{1}{4 c_1 k^2}$

$2^+_{\#1}\,\tau\dagger^{\alpha\beta}$	$4 c_1 k^2$	

$0^+_{\#1}\,f\dagger$ × $0^+_{\#1}\,f$, $0^+_{\#2}\,f$

$0^+_{\#1}\,f\dagger$	0	0
$0^+_{\#2}\,f\dagger$	0	0

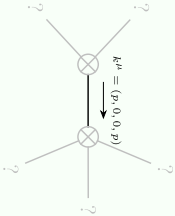
$0^+_{\#1}\,\tau\dagger$ × $0^+_{\#1}\,\tau$, $0^+_{\#2}\,\tau$

$0^+_{\#1}\,\tau\dagger$	0	0
$0^+_{\#2}\,\tau\dagger$	0	0

Massive and massless spectra

Polarisations:	Poleresidue:
2	$\frac{1}{c_1} > 0$

Massless particle



(No particles)

Unitarity conditions