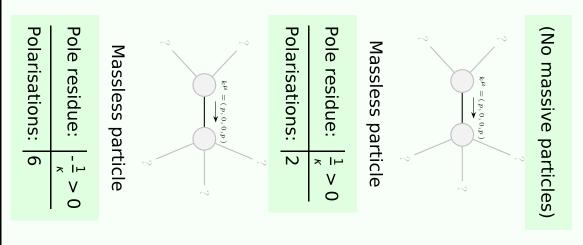
## Particle spectrograph

## Wave operator and propagator

Multiplicities				$\omega_{2^{+}\alpha\beta}^{\#1} \qquad \theta_{2^{+}\alpha\beta}^{\#1}$ $\omega_{2^{+}}^{\#1} + \alpha\beta \left[ -\frac{4}{k^{2}\kappa} \right] \theta_{2^{+}}^{\#1} + \alpha\beta \left[ -\frac{k^{2}\kappa}{4} \right]$	
Σ	1 11,	3	4		ם א
Spin-parity form	xAct`xTensor`Private`Reconstruct[ Symmetry[4, $-\partial^{\bullet 4}\partial^{\bullet 3}\omega^{\bullet 1 \bullet 2}$ , $\{\bullet 1 \rightarrow a, \bullet 2 \rightarrow b, \bullet 3 \rightarrow -a, \bullet 4 \rightarrow -b\},$ StrongGenSet[{3, 4}, GenSet[(3,4)]]], {1, {a, -a, b, -b}}[{1, 3, 5, 2}]]} == 0	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\omega^{\beta\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\omega^{\alpha\beta}$	Total expected gauge generators:	$\omega_{0^{+}}^{\#1} \omega_{0^{+}}^{\#2}$ $\omega_{0^{+}}^{\#1} + \begin{vmatrix} -\frac{4}{k^{2} \kappa} & 0 \\ 0 & 0 \end{vmatrix}$ $\omega_{0^{+}}^{\#2} + \begin{vmatrix} -\frac{k^{2} \kappa}{4} & 0 \\ 0 & 0 \end{vmatrix}$ $\omega_{0^{+}}^{\#2} + \begin{vmatrix} 0 & 0 \\ 0 & 0 \end{vmatrix}$	$S == \iiint (\theta^{\alpha\beta} \ \omega_{\alpha\beta} + \frac{1}{4} \ \kappa \left( \partial_{\nu} \theta_{\mu\rho} - \partial_{\rho} \theta_{\mu\nu} \right) \partial^{\rho} \theta^{\mu\nu})[t,  \varkappa,  y,  z]  dz  dy  dx  dt$
rm Co	X	$\partial_{\chi}$	d gau	$\omega_{1^{+} \alpha \beta}^{\#1} \ \omega_{1^{-} \alpha}^{\#1} \ \omega_{1^{-} \alpha}^{\#2} \ \qquad \qquad \theta_{1^{+} \alpha \beta}^{\#1} \ \theta_{1^{-} \alpha}^{\#1} \ \theta_{1^{-} \alpha}^{\#2}$	$\omega_{lphaeta}$ +
ity fo		0	secte	$\omega_{1}^{\#1} + \alpha^{\beta} - \frac{4}{k^{2} \kappa} = 0 = 0 = \theta_{1}^{\#1} + \alpha^{\beta} - \frac{k^{2} \kappa}{4} = 0 = 0$	( $\theta^{\alpha\beta}$
n-pari	0 ==	5α == 0	al exp	$\omega_{1}^{\#1} + {\alpha \choose 1} = 0  -\frac{4}{k^{2} \kappa} = 0  \theta_{1}^{\#1} + {\alpha \choose 4} = 0  -\frac{k^{2} \kappa}{4} = 0$	: [[[[
Spir	$\omega_{0+}^{#2}$	$\omega_1^{\#2lpha}$	Tota	$\omega_{1}^{\#2} + {}^{\alpha}$ 0 0 0 $\theta_{1}^{\#2} + {}^{\alpha}$ 0 0	ς 

## Massive and massless spectra



## **Unitarity conditions**

(Demonstrably impossible)