

PSALTer results panel

$$S = \int \int \int \int \left(\rho \varphi + h^{\alpha\beta} \mathcal{T}_{\alpha\beta} + \alpha_2 \partial_\alpha \varphi \partial^\alpha \varphi + \frac{1}{2} \alpha_1 \left(\partial_\beta h^\chi_\chi \partial^\beta h^\alpha_\alpha + 2 \partial_\alpha h^{\alpha\beta} \partial_\chi h^\chi_\beta - 2 \partial^\beta h^\alpha_\alpha \partial_\chi h^\chi_\beta - \partial_\chi h_{\alpha\beta} \partial^\chi h^{\alpha\beta} \right) \right) [t, x, y, z] dx dy dz dt$$

Wave operator

$$\begin{array}{c}
\begin{array}{ccc}
\emptyset^+ \varphi & \emptyset^+ h^\perp & \emptyset^+ h^\parallel \\
\emptyset^+ \varphi \dagger & \alpha_2 k^2 & 0 \\
\emptyset^+ h^\perp \dagger & 0 & 0 \\
\emptyset^+ h^\parallel \dagger & 0 & \alpha_1 k^2
\end{array}
\end{array}
\begin{array}{c}
\begin{array}{cc}
1^- h^\perp \alpha & \\
1^- h^\perp \dagger \alpha & 0 \\
2^+ h^\parallel \alpha \beta & \\
2^+ h^\parallel \dagger \alpha \beta & -\frac{\alpha_1 k^2}{2}
\end{array}
\end{array}$$

Saturated propagator

$$\begin{array}{c}
\begin{array}{c} \emptyset^+ \rho \\ \emptyset^+ \rho^\perp \\ \emptyset^+ \mathcal{T}^\parallel \end{array} \uparrow \begin{array}{|c|c|c|} \hline \frac{1}{\alpha_+ k^2} & 0 & 0 \\ \hline 0 & 0 & 0 \\ \hline 0 & 0 & \frac{1}{\alpha_- k^2} \\ \hline \end{array} \\
\begin{array}{c} \emptyset^+ \rho^\perp \\ \emptyset^+ \mathcal{T}^\perp \\ \emptyset^+ \mathcal{T}^\parallel \end{array} \uparrow \begin{array}{|c|c|c|} \hline \frac{1}{\alpha_+ k^2} & 0 & 0 \\ \hline 0 & 0 & 0 \\ \hline 0 & 0 & \frac{1}{\alpha_- k^2} \\ \hline \end{array} \\
\begin{array}{c} \emptyset^+ \rho \\ \emptyset^+ \rho^\perp \\ \emptyset^+ \mathcal{T}^\parallel \end{array} \uparrow \begin{array}{|c|c|c|} \hline \frac{1}{\alpha_+ k^2} & 0 & 0 \\ \hline 0 & 0 & 0 \\ \hline 0 & 0 & \frac{1}{\alpha_- k^2} \\ \hline \end{array}
\end{array}$$

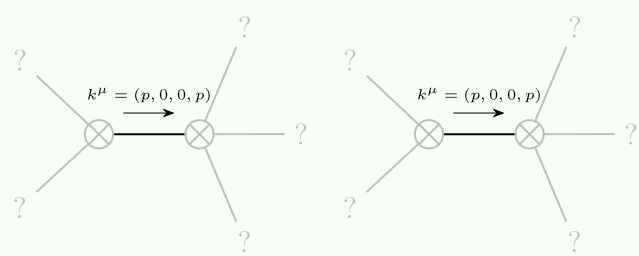
Source constraints

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

Massive spectrum

(No particles)

Massless spectrum



Massless particle	Massless particle
Pole residue: $\left \frac{1}{\alpha_2} \right > 0$	Pole residue: $\left -\frac{p^2}{\alpha_1} \right > 0$
Polarisations: 1	Polarisations: 2

Unitarity conditions

$$\alpha_1 < 0 \ \&\& \ \alpha_2 > 0$$