

$$S = \iiint \int (h^{\alpha\beta} \tau_{\alpha\beta} + \frac{1}{2} \alpha_2 \partial_\beta h^\chi_\chi \partial^\beta h^\alpha_\alpha + \alpha_1 (\partial_\alpha h^{\alpha\beta} \partial_\chi h^\chi_\beta - \partial^\beta h^\alpha_\alpha \partial_\chi h^\chi_\beta - \frac{1}{2} \partial_\chi h_{\alpha\beta} \partial^\chi h^{\alpha\beta})) [t, x, y, z] dz dy dx dt$$
$$\begin{array}{cc|c|c}
0^+ h^\perp & 0^+ h^\parallel & & \\
\hline
0^+ h^\perp \dagger & \frac{1}{2} (-\alpha_1 + \alpha_2) k^2 & \frac{1}{2} \sqrt{3} (-\alpha_1 + \alpha_2) k^2 & \\
0^+ h^\parallel \dagger & \frac{1}{2} \sqrt{3} (-\alpha_1 + \alpha_2) k^2 & -\frac{1}{2} (\alpha_1 - 3\alpha_2) k^2 & 1^- h^\perp_\alpha \\
\hline
& & 1^- h^\perp \dagger^\alpha & 0 \\
& & & 2^+ h^\parallel_{\alpha\beta} \\
& & 2^+ h^\parallel \dagger^{\alpha\beta} & \frac{\alpha \cdot k^2}{-1/2}
\end{array}$$
$$\begin{array}{cc}
0^+ \mathcal{T}^\perp & 0^+ \mathcal{T}^\parallel \\
0^+ \mathcal{T}^\perp \uparrow & \begin{array}{cc} \frac{\alpha_1 - 3\alpha_2}{\alpha_1 (\alpha_1 - \alpha_2) k^2} & -\frac{\sqrt{3}}{\alpha_1 k^2} \\ -\frac{\sqrt{3}}{\alpha_1 k^2} & \frac{1}{\alpha_1 k^2} \end{array} \\
0^+ \mathcal{T}^\parallel \uparrow & \begin{array}{cc} & \\ & \end{array} \\
\begin{array}{cc} 1^- \mathcal{T}^\perp \uparrow^\alpha & 1^- \mathcal{T}^\perp_\alpha \end{array} & \begin{array}{cc} 0 & 2^+ \mathcal{T}^\parallel_{\alpha\beta} \\ 2^+ \mathcal{T}^\parallel \uparrow^{\alpha\beta} & -\frac{2}{\alpha_1 k^2} \end{array}
\end{array}$$

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

(No particles)

Massless particle

Pole residue:	$\frac{p^2}{-\alpha_1 + \alpha_2} > 0$
Polarisations:	1

Pole residue:	$-\frac{p^2}{\alpha_1} > 0$
Polarisations:	2

$$\alpha_1 < 0 \text{ \&\& } \alpha_2 > \alpha_1$$

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