PSALTer results panel

Wave operator and propagator

$$
\begin{aligned}
S == \iiiint \Big(\tfrac{1}{8}\big(&-4a_0\mathcal{A}_{\alpha\chi\beta}\mathcal{A}^{\alpha\beta\chi}+8\mathcal{A}^{\alpha\beta\chi}\mathcal{W}_{\alpha\beta\chi}+8\mathcal{T}^{\alpha\beta}h_{\alpha\beta}+4a_0h^{\alpha\beta}\partial_\beta\mathcal{A}_\alpha{}^\chi{}_\chi-4a_0\mathcal{A}^{\alpha\beta\chi}\partial_\beta h_{\alpha\chi}+2a_0\mathcal{A}^{\alpha\beta}{}_\alpha\partial_\beta h^\chi{}_\chi+2a_0h^{\alpha\beta}\partial_\beta\partial_\alpha h^\chi{}_\chi-a_0\partial_\beta h^\chi{}_\chi\partial^\beta h^\alpha{}_\alpha-4a_0h^{\alpha\beta}\partial_\chi\mathcal{A}_\alpha{}^\chi{}_\beta-\\
&2a_0h^\alpha{}_\alpha\partial_\chi\mathcal{A}^\beta{}_\beta{}^\chi+2a_0h^\alpha{}_\alpha\partial_\chi\mathcal{A}^{\beta\chi}{}_\beta+2a_0\partial^\beta h^\alpha{}_\alpha\partial_\chi h_\beta{}^\chi+2a_0\mathcal{A}^\alpha{}_\alpha{}^\beta(2\mathcal{A}^\chi{}_{\beta\chi}-\partial_\beta h^\chi{}_\chi+2\partial_\chi h_\beta{}^\chi)-2h_{11}\partial_\beta\mathcal{A}^{\alpha\beta\chi}\partial_\chi\partial_\alpha h^\delta{}_\delta-\\
&2h_{12}\partial_\beta\mathcal{A}^{\alpha\beta\chi}\partial_\chi\partial_\alpha h^\delta{}_\delta+4h_7\partial_\beta\mathcal{A}^{\alpha\beta\chi}\partial_\chi\partial_\alpha h^\delta{}_\delta+4h_8\partial_\beta\mathcal{A}^{\alpha\beta\chi}\partial_\chi\partial_\alpha h^\delta{}_\delta-4a_0h^{\alpha\beta}\partial_\chi\partial_\beta h_\alpha{}^\chi+2a_0h^\alpha{}_\alpha\partial_\chi\partial_\beta h^{\beta\chi}+2h_{11}\partial_\alpha\mathcal{A}^{\alpha\beta\chi}\partial_\chi\partial_\beta h^\delta{}_\delta+\\
&2h_{12}\partial_\alpha\mathcal{A}^{\alpha\beta\chi}\partial_\chi\partial_\beta h^\delta{}_\delta+2a_0h^{\alpha\beta}\partial_\chi\partial^\chi h_{\alpha\beta}-2a_0h^\alpha{}_\alpha\partial_\chi\partial^\chi h^\beta{}_\beta-4h_8\partial_\beta\mathcal{A}_\chi{}^\delta{}_\delta\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta-4h_{12}\partial_\beta\mathcal{A}^\delta{}_{\chi\delta}\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta-4h_7\partial_\chi\mathcal{A}_\beta{}^\delta{}_\delta\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta-\\
&4h_{11}\partial_\chi\mathcal{A}^\delta{}_{\beta\delta}\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta+2h_{11}\partial_\chi\partial_\beta h^\delta{}_\delta\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta+2h_{12}\partial_\chi\partial_\beta h^\delta{}_\delta\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta-4h_7\partial_\chi\partial_\beta h^\delta{}_\delta\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta-4h_8\partial_\chi\partial_\beta h^\delta{}_\delta\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta+4h_9\partial_\beta\mathcal{A}^\delta{}_{\chi\delta}\partial^\chi\mathcal{A}^{\alpha\beta}{}_\alpha-\\
&4h_9\partial_\chi\mathcal{A}^\delta{}_{\beta\delta}\partial^\chi\mathcal{A}^{\alpha\beta}{}_\alpha-2h_{11}\partial_\chi\partial_\beta h^\delta{}_\delta\partial^\chi\mathcal{A}^{\alpha\beta}{}_\alpha-2h_{12}\partial_\chi\partial_\beta h^\delta{}_\delta\partial^\chi\mathcal{A}^{\alpha\beta}{}_\alpha-2a_0\partial_\beta h_{\alpha\chi}\partial^\chi h^{\alpha\beta}+a_0\partial_\chi h_{\alpha\beta}\partial^\chi h^{\alpha\beta}+h_{11}\partial_\chi\partial_\beta h^\delta{}_\delta\partial^\chi\partial^\beta h^\alpha{}_\alpha+\\
&h_{12}\partial_\chi\partial_\beta h^\delta{}_\delta\partial^\chi\partial^\beta h^\alpha{}_\alpha-h_7\partial_\chi\partial_\beta h^\delta{}_\delta\partial^\chi\partial^\beta h^\alpha{}_\alpha-h_8\partial_\chi\partial_\beta h^\delta{}_\delta\partial^\chi\partial^\beta h^\alpha{}_\alpha-4h_7\partial_\beta\mathcal{A}^{\alpha\beta\chi}\partial_\delta\mathcal{A}_\alpha{}^\delta{}_\chi-4h_8\partial_\beta\mathcal{A}^{\alpha\beta\chi}\partial_\delta\mathcal{A}_\alpha{}^\delta{}_\chi+4h_9\partial_\alpha\mathcal{A}^{\alpha\beta\chi}\partial_\delta\mathcal{A}_{\beta\chi}{}^\delta+\\
&4h_{12}\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\delta\mathcal{A}_{\beta\chi}{}^\delta-8h_9\partial^\chi\mathcal{A}^{\alpha\beta}{}_\alpha\partial_\delta\mathcal{A}_{\beta\chi}{}^\delta-4h_{11}\partial_\alpha\mathcal{A}^{\alpha\beta\chi}\partial_\delta\mathcal{A}_\beta{}^\delta{}_\chi-4h_{12}\partial_\alpha\mathcal{A}^{\alpha\beta\chi}\partial_\delta\mathcal{A}_\beta{}^\delta{}_\chi+8h_7\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\delta\mathcal{A}_\beta{}^\delta{}_\chi+8h_8\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\delta\mathcal{A}_\beta{}^\delta{}_\chi+\\
&4h_{11}\partial^\chi\mathcal{A}^{\alpha\beta}{}_\alpha\partial_\delta\mathcal{A}_\beta{}^\delta{}_\chi+4h_{12}\partial^\chi\mathcal{A}^{\alpha\beta}{}_\alpha\partial_\delta\mathcal{A}_\beta{}^\delta{}_\chi-4h_9\partial_\alpha\mathcal{A}^{\alpha\beta\chi}\partial_\delta\mathcal{A}_\chi{}^\delta{}_\beta+4h_{11}\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\delta\mathcal{A}_\chi{}^\delta{}_\beta+8h_9\partial^\chi\mathcal{A}^{\alpha\beta}{}_\alpha\partial_\delta\mathcal{A}_\chi{}^\delta{}_\beta-2h_{11}\partial_\chi\partial^\chi h^{\alpha\beta}\partial_\delta\partial_\beta h_\alpha{}^\delta-\\
&2h_{12}\partial_\chi\partial^\chi h^{\alpha\beta}\partial_\delta\partial_\beta h_\alpha{}^\delta+2h_7\partial_\chi\partial^\chi h^{\alpha\beta}\partial_\delta\partial_\beta h_\alpha{}^\delta+2h_8\partial_\chi\partial^\chi h^{\alpha\beta}\partial_\delta\partial_\beta h_\alpha{}^\delta-2h_{11}\partial_\alpha\mathcal{A}^{\alpha\beta\chi}\partial_\delta\partial_\beta h_\chi{}^\delta-2h_{12}\partial_\alpha\mathcal{A}^{\alpha\beta\chi}\partial_\delta\partial_\beta h_\chi{}^\delta-2h_7\partial_\alpha\partial^\chi h^{\alpha\beta}\partial_\delta\partial_\beta h_\chi{}^\delta-\\
&2h_8\partial_\alpha\partial^\chi h^{\alpha\beta}\partial_\delta\partial_\beta h_\chi{}^\delta+4h_9\partial_\alpha\partial^\chi h^{\alpha\beta}\partial_\delta\partial_\beta h_\chi{}^\delta-2h_{11}\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\delta\partial_\beta h_\chi{}^\delta-2h_{12}\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\delta\partial_\beta h_\chi{}^\delta+4h_7\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\delta\partial_\beta h_\chi{}^\delta+4h_8\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\delta\partial_\beta h_\chi{}^\delta+\\
&2h_{11}\partial^\chi\mathcal{A}^{\alpha\beta}{}_\alpha\partial_\delta\partial_\beta h_\chi{}^\delta+2h_{12}\partial^\chi\mathcal{A}^{\alpha\beta}{}_\alpha\partial_\delta\partial_\beta h_\chi{}^\delta+2h_{11}\partial^\chi\partial_\alpha h^{\alpha\beta}\partial_\delta\partial_\beta h_\chi{}^\delta+2h_{12}\partial^\chi\partial_\alpha h^{\alpha\beta}\partial_\delta\partial_\beta h_\chi{}^\delta-4h_9\partial^\chi\partial_\alpha h^{\alpha\beta}\partial_\delta\partial_\beta h_\chi{}^\delta-2h_{11}\partial^\chi\partial^\beta h^\alpha{}_\alpha\partial_\delta\partial_\beta h_\chi{}^\delta-\\
&2h_{12}\partial^\chi\partial^\beta h^\alpha{}_\alpha\partial_\delta\partial_\beta h_\chi{}^\delta+2h_7\partial^\chi\partial^\beta h^\alpha{}_\alpha\partial_\delta\partial_\beta h_\chi{}^\delta+2h_8\partial^\chi\partial^\beta h^\alpha{}_\alpha\partial_\delta\partial_\beta h_\chi{}^\delta+2h_9\partial^\chi\partial^\beta h^\alpha{}_\alpha\partial_\delta\partial_\beta h_\chi{}^\delta+4h_{11}\partial_\beta\mathcal{A}^{\alpha\beta\chi}\partial_\delta\partial_\chi h_\alpha{}^\delta+4h_{12}\partial_\beta\mathcal{A}^{\alpha\beta\chi}\partial_\delta\partial_\chi h_\alpha{}^\delta-\\
&8h_7\partial_\beta\mathcal{A}^{\alpha\beta\chi}\partial_\delta\partial_\chi h_\alpha{}^\delta-8h_8\partial_\beta\mathcal{A}^{\alpha\beta\chi}\partial_\delta\partial_\chi h_\alpha{}^\delta-2h_{11}\partial_\alpha\mathcal{A}^{\alpha\beta\chi}\partial_\delta\partial_\chi h_\beta{}^\delta-2h_{12}\partial_\alpha\mathcal{A}^{\alpha\beta\chi}\partial_\delta\partial_\chi h_\beta{}^\delta-2h_7\partial_\alpha\partial^\chi h^{\alpha\beta}\partial_\delta\partial_\chi h_\beta{}^\delta-2h_8\partial_\alpha\partial^\chi h^{\alpha\beta}\partial_\delta\partial_\chi h_\beta{}^\delta-\\
&4h_9\partial_\alpha\partial^\chi h^{\alpha\beta}\partial_\delta\partial_\chi h_\beta{}^\delta-2h_{11}\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\delta\partial_\chi h_\beta{}^\delta-2h_{12}\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\delta\partial_\chi h_\beta{}^\delta+4h_7\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\delta\partial_\chi h_\beta{}^\delta+4h_8\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\delta\partial_\chi h_\beta{}^\delta+2h_{11}\partial^\chi\mathcal{A}^{\alpha\beta}{}_\alpha\partial_\delta\partial_\chi h_\beta{}^\delta+\\
&2h_{12}\partial^\chi\mathcal{A}^{\alpha\beta}{}_\alpha\partial_\delta\partial_\chi h_\beta{}^\delta+2h_{11}\partial^\chi\partial_\alpha h^{\alpha\beta}\partial_\delta\partial_\chi h_\beta{}^\delta+2h_{12}\partial^\chi\partial_\alpha h^{\alpha\beta}\partial_\delta\partial_\chi h_\beta{}^\delta+4h_9\partial^\chi\partial_\alpha h^{\alpha\beta}\partial_\delta\partial_\chi h_\beta{}^\delta-2h_{11}\partial^\chi\partial^\beta h^\alpha{}_\alpha\partial_\delta\partial_\chi h_\beta{}^\delta-\\
&2h_{12}\partial^\chi\partial^\beta h^\alpha{}_\alpha\partial_\delta\partial_\chi h_\beta{}^\delta+2h_7\partial^\chi\partial^\beta h^\alpha{}_\alpha\partial_\delta\partial_\chi h_\beta{}^\delta+2h_8\partial^\chi\partial^\beta h^\alpha{}_\alpha\partial_\delta\partial_\chi h_\beta{}^\delta-2h_9\partial^\chi\partial^\beta h^\alpha{}_\alpha\partial_\delta\partial_\chi h_\beta{}^\delta+h_{11}\partial_\chi\partial^\chi h^{\alpha\beta}\partial_\delta\partial^\delta h_{\alpha\beta}+h_{12}\partial_\chi\partial^\chi h^{\alpha\beta}\partial_\delta\partial^\delta h_{\alpha\beta}-\\
&h_7\partial_\chi\partial^\chi h^{\alpha\beta}\partial_\delta\partial^\delta h_{\alpha\beta}-h_8\partial_\chi\partial^\chi h^{\alpha\beta}\partial_\delta\partial^\delta h_{\alpha\beta}-2h_{11}\partial_\beta\mathcal{A}^{\alpha\beta\chi}\partial_\delta\partial^\delta h_{\alpha\chi}-2h_{12}\partial_\beta\mathcal{A}^{\alpha\beta\chi}\partial_\delta\partial^\delta h_{\alpha\chi}+4h_7\partial_\beta\mathcal{A}^{\alpha\beta\chi}\partial_\delta\partial^\delta h_{\alpha\chi}+4h_8\partial_\beta\mathcal{A}^{\alpha\beta\chi}\partial_\delta\partial^\delta h_{\alpha\chi}+\\
&2h_{11}\partial_\alpha\mathcal{A}^{\alpha\beta\chi}\partial_\delta\partial^\delta h_{\beta\chi}+2h_{12}\partial_\alpha\mathcal{A}^{\alpha\beta\chi}\partial_\delta\partial^\delta h_{\beta\chi}+2h_7\partial_\alpha\partial^\chi h^{\alpha\beta}\partial_\delta\partial^\delta h_{\beta\chi}+2h_8\partial_\alpha\partial^\chi h^{\alpha\beta}\partial_\delta\partial^\delta h_{\beta\chi}+2h_{11}\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\delta\partial^\delta h_{\beta\chi}+\\
&2h_{12}\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\delta\partial^\delta h_{\beta\chi}-4h_7\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\delta\partial^\delta h_{\beta\chi}-4h_8\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\delta\partial^\delta h_{\beta\chi}-2h_{11}\partial^\chi\mathcal{A}^{\alpha\beta}{}_\alpha\partial_\delta\partial^\delta h_{\beta\chi}-2h_{12}\partial^\chi\mathcal{A}^{\alpha\beta}{}_\alpha\partial_\delta\partial^\delta h_{\beta\chi}-2h_{11}\partial^\chi\partial_\alpha h^{\alpha\beta}\partial_\delta\partial^\delta h_{\beta\chi}-\\
&2h_{12}\partial^\chi\partial_\alpha h^{\alpha\beta}\partial_\delta\partial^\delta h_{\beta\chi}+2h_{11}\partial^\chi\partial^\beta h^\alpha{}_\alpha\partial_\delta\partial^\delta h_{\beta\chi}+2h_{12}\partial^\chi\partial^\beta h^\alpha{}_\alpha\partial_\delta\partial^\delta h_{\beta\chi}-2h_7\partial^\chi\partial^\beta h^\alpha{}_\alpha\partial_\delta\partial^\delta h_{\beta\chi}-2h_8\partial^\chi\partial^\beta h^\alpha{}_\alpha\partial_\delta\partial^\delta h_{\beta\chi}\big)\Big)[t,x,y,z]\,dz\,dy\,dx\,dt
\end{aligned}
$$

	$1^{+}\mathcal{A}_s{}^{\perp}{}_{\alpha\beta}$	$1^{-}h^{\perp}{}_{\alpha}$	$1^{-}\mathcal{A}_s{}^{\perp t}{}_{\alpha}$	$1^{-}\mathcal{A}_s{}^{\parallel t}{}_{\alpha}$	$1^{-}\mathcal{A}_s{}^{\perp h}{}_{\alpha}$	$1^{-}\mathcal{A}_s{}^{\parallel h}{}_{\alpha}$
$1^{+}\mathcal{A}_s{}^{\perp}\dagger^{\alpha\beta}$	$\frac{1}{4}(-2k^2h_9+a_0)$	0	0	0	0	0
$1^{-}h^{\perp}\dagger^{\alpha}$	0 0		0	0	0	0
$1^{-}\mathcal{A}_s{}^{\perp t}\dagger^{\alpha}$	0	0	$\frac{1}{6}(-k^2(h_{11}+h_7+h_9)-2a_0)$	$\frac{1}{6}\sqrt{5}(k^2(h_{12}+h_8-h_9)+a_0)$	$\frac{2k^2(h_{11}+h_7+h_9)+a_0}{12\sqrt{2}}$	$\frac{1}{12}(k^2(h_{12}-2(h_8+2h_9))+a_0)$
$1^{-}\mathcal{A}_s{}^{\parallel t}\dagger^{\alpha}$	0	0	$\frac{1}{6}\sqrt{5}(k^2(h_{12}+h_8-h_9)+a_0)$	$\frac{1}{6}(-5k^2(h_{11}+h_7+h_9)+2a_0)$	$\frac{1}{12}\sqrt{\frac{5}{2}}(-2k^2(h_{12}+h_8-h_9)+a_0)$	$\frac{1}{12}\sqrt{5}(-k^2(h_{11}-2h_7+4h_9)+a_0)$
$1^{-}\mathcal{A}_s{}^{\perp h}\dagger^{\alpha}$	0	0	$\frac{2k^2(h_{11}+h_7+h_9)+a_0}{12\sqrt{2}}$	$\frac{1}{12}\sqrt{\frac{5}{2}}(-2k^2(h_{12}+h_8-h_9)+a_0)$	$\frac{1}{12}(-k^2(h_{11}+h_7+h_9)+a_0)$	$\frac{k^2(-h_{12}+2h_8+4h_9)-4a_0}{12\sqrt{2}}$
$1^{-}\mathcal{A}_s{}^{\parallel h}\dagger^{\alpha}$	0	0	$\frac{1}{12}(k^2(h_{12}-2(h_8+2h_9))+a_0)$	$\frac{1}{12}\sqrt{5}(-k^2(h_{11}-2h_7+4h_9)+a_0)$	$\frac{k^2(-h_{12}+2h_8+4h_9)-4a_0}{12\sqrt{2}}$	$\frac{1}{12}(k^2(4h_{11}-2(h_7+4h_9))-a_0)$

	$0^{+}\mathcal{T}^{\perp}$	$0^{+}\mathcal{T}^{\parallel}$	$0^{+}\mathcal{W}_s{}^{\perp t}$	$0^{+}\mathcal{W}_s{}^{\parallel}$	$0^{+}\mathcal{W}_s{}^{\perp h}$
$0^{+}\mathcal{T}^{\perp}\dagger$	0	0	0	0	0
$0^{+}\mathcal{T}^{\parallel}\dagger$	0	$\frac{4(2k^2(-h_{11}-h_{12}+h_7+h_8)+a_0)}{k^2a_0^2}$	$-\frac{4ik(h_{11}+h_{12})}{\sqrt{3}a_0^2}$	$-\frac{4ik(h_{11}+h_{12}-h_7-h_8)}{\sqrt{3}a_0^2}$	$\frac{8i\sqrt{\frac{2}{3}}k(h_{11}+h_{12}-h_7-h_8)}{a_0^2}$
$0^{+}\mathcal{W}_s{}^{\perp t}\dagger$	0	$\frac{4ik(h_{11}+h_{12})}{\sqrt{3}a_0^2}$	$-\frac{-6k^2(h_{11}+h_{12}+h_7+h_8)+a_0}{3a_0^2}$	$\frac{-2k^2(h_{11}+h_{12})+5a_0}{3a_0^2}$	$\frac{2\sqrt{2}(2k^2(h_{11}+h_{12})+a_0)}{3a_0^2}$
$0^{+}\mathcal{W}_s{}^{\parallel}\dagger$	0	$\frac{4ik(h_{11}+h_{12}-h_7-h_8)}{\sqrt{3}a_0^2}$	$\frac{-2k^2(h_{11}+h_{12})+5a_0}{3a_0^2}$	$-\frac{2k^2(h_{11}+h_{12}-h_7-h_8)+a_0}{3a_0^2}$	$\frac{2\sqrt{2}(2k^2(h_{11}+h_{12}-h_7-h_8)+a_0)}{3a_0^2}$
$0^{+}\mathcal{W}_s{}^{\perp h}\dagger$	0	$-\frac{8i\sqrt{\frac{2}{3}}k(h_{11}+h_{12}-h_7-h_8)}{a_0^2}$	$\frac{2\sqrt{2}(2k^2(h_{11}+h_{12})+a_0)}{3a_0^2}$	$\frac{2\sqrt{2}(2k^2(h_{11}+h_{12}-h_7-h_8)+a_0)}{3a_0^2}$	$-\frac{8(2k^2(h_{11}+h_{12}-h_7-h_8)+a_0)}{3a_0^2}$

	$3^{-}\mathcal{W}_s{}^{\parallel}{}_{\alpha\beta\chi}$
$3^{-}\mathcal{W}_s{}^{\parallel}\dagger^{\alpha\beta\chi}$	$-\frac{2}{a_0}$

	$3^{-}\mathcal{A}_s{}^{\parallel}{}_{\alpha\beta\chi}$
$3^{-}\mathcal{A}_s{}^{\parallel}\dagger^{\alpha\beta\chi}$	$-\frac{a_0}{2}$

	$0^{+}h^{\perp}$	$0^{+}h^{\parallel}$	$0^{+}\mathcal{A}_s{}^{\perp t}$	$0^{+}\mathcal{A}_s{}^{\parallel}$	$0^{+}\mathcal{A}_s{}^{\perp h}$
$0^{+}h^{\perp}\dagger$	0	0	0	0	0
$0^{+}h^{\parallel}\dagger$	0	$\frac{1}{4}k^2(2k^2(h_{11}+h_{12}-h_7-h_8)+a_0)$	0	$\frac{ik^3(h_7+h_8)}{2\sqrt{3}}$	$\frac{ik^3(6h_{11}+6h_{12}-5(h_7+h_8))}{4\sqrt{6}}$
$0^{+}\mathcal{A}_s{}^{\perp t}\dagger$	0	0	0	$\frac{a_0}{2}$	$\frac{a_0}{4\sqrt{2}}$
$0^{+}\mathcal{A}_s{}^{\parallel}\dagger$	0	$-\frac{ik^3(h_7+h_8)}{2\sqrt{3}}$	$\frac{a_0}{2}$	$-\frac{2}{3}k^2(h_{11}+h_{12}+h_7+h_8)$	$\frac{2k^2(-2h_{11}-2h_{12}+h_7+h_8)+3a_0}{12\sqrt{2}}$
$0^{+}\mathcal{A}_s{}^{\perp h}\dagger$	0	$-\frac{ik^3(6h_{11}+6h_{12}-5(h_7+h_8))}{4\sqrt{6}}$	$\frac{a_0}{4\sqrt{2}}$	$\frac{2k^2(-2h_{11}-2h_{12}+h_7+h_8)+3a_0}{12\sqrt{2}}$	$\frac{1}{12}(k^2(8h_{11}+8h_{12}-7(h_7+h_8))-3a_0)$

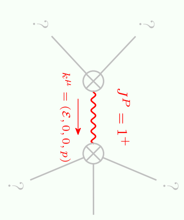
	$2^{+}h^{\parallel}{}_{\alpha\beta}$	$2^{+}\mathcal{A}_s{}^{\parallel}{}_{\alpha\beta}$	$2^{+}\mathcal{A}_s{}^{\perp}{}_{\alpha\beta}$	$2^{-}\mathcal{A}_s{}^{\parallel}{}_{\alpha\beta\chi}$
$2^{+}h^{\parallel}\dagger^{\alpha\beta}$	$\frac{1}{8}(k^4(h_{11}+h_{12}-h_7-h_8)-k^2a_0)$	$-\frac{ik^3(h_7+h_8)}{4\sqrt{3}}$	$\frac{ik^3(3h_{11}+3h_{12}-4(h_7+h_8))}{8\sqrt{6}}$	0
$2^{+}\mathcal{A}_s{}^{\parallel}\dagger^{\alpha\beta}$	$\frac{ik^3(h_7+h_8)}{4\sqrt{3}}$	$\frac{1}{6}(-k^2(h_{11}+h_{12}+h_7+h_8)-3a_0)$	$-\frac{k^2(h_{11}+h_{12}+4(h_7+h_8))}{12\sqrt{2}}$	0
$2^{+}\mathcal{A}_s{}^{\perp}\dagger^{\alpha\beta}$	$-\frac{ik^3(3h_{11}+3h_{12}-4(h_7+h_8))}{8\sqrt{6}}$	$-\frac{k^2(h_{11}+h_{12}+4(h_7+h_8))}{12\sqrt{2}}$	$\frac{1}{6}k^2(h_{11}+h_{12}-2(h_7+h_8))+\frac{a_0}{4}$	0
$2^{-}\mathcal{A}_s{}^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	0	$\frac{a_0}{4}$

	$2^{+}\mathcal{T}^{\parallel}{}_{\alpha\beta}$	$2^{+}\mathcal{W}_s{}^{\parallel}{}_{\alpha\beta}$	$2^{+}\mathcal{W}_s{}^{\perp}{}_{\alpha\beta}$	$2^{-}\mathcal{W}_s{}^{\parallel}{}_{\alpha\beta\chi}$
$2^{+}\mathcal{T}^{\parallel}\dagger^{\alpha\beta}$	$-\frac{2(k^4(h_{11}+h_{12})^2+4k^2(h_{11}+h_{12}-h_7-h_8)a_0+4a_0^2)}{k^2a_0^3}$	$-\frac{ik(k^2(h_{11}+h_{12})^2-4(h_7+h_8)a_0)}{\sqrt{3}a_0^3}$	$\frac{2i\sqrt{\frac{2}{3}}k(k^2(h_{11}+h_{12})^2+(3h_{11}+3h_{12}-4(h_7+h_8))a_0)}{a_0^3}$	0
$2^{+}\mathcal{W}_s{}^{\parallel}\dagger^{\alpha\beta}$	$\frac{i(k^3(h_{11}+h_{12})^2-4k(h_7+h_8)a_0)}{\sqrt{3}a_0^3}$	$-\frac{k^4(h_{11}+h_{12})^2-4k^2(h_{11}+h_{12}+h_7+h_8)a_0+12a_0^2}{6a_0^3}$	$\frac{\sqrt{2}k^2(k^2(h_{11}+h_{12})^2-(h_{11}+h_{12}+4(h_7+h_8))a_0)}{3a_0^3}$	0
$2^{+}\mathcal{W}_s{}^{\perp}\dagger^{\alpha\beta}$	$-\frac{2i\sqrt{\frac{2}{3}}(k^3(h_{11}+h_{12})^2+k(3h_{11}+3h_{12}-4(h_7+h_8))a_0)}{a_0^3}$	$\frac{\sqrt{2}k^2(k^2(h_{11}+h_{12})^2-(h_{11}+h_{12}+4(h_7+h_8))a_0)}{3a_0^3}$	$-\frac{4(k^4(h_{11}+h_{12})^2+2k^2(h_{11}+h_{12}-2(h_7+h_8))a_0-3a_0^2)}{3a_0^3}$	0
$2^{-}\mathcal{W}_s{}^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	0	$\frac{4}{a_0}$

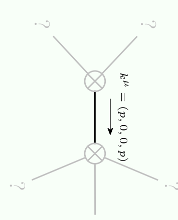
Spin-parity form	Covariant form	Multiplicities
$0^{+}\mathcal{T}^{\perp} == 0$	$\partial_\beta\partial_\alpha\mathcal{T}^{\alpha\beta} == 0$	1
$1^{-}\mathcal{T}^{\perp\alpha} == 0$	$\partial_\chi\partial_\beta\partial^\alpha\mathcal{T}^{\beta\chi} == \partial_\chi\partial^\chi\partial_\beta\mathcal{T}^{\alpha\beta}$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

Massive and massless spectra

Massive particle	
Pole residue:	$-\frac{2}{h_9} > 0$
Square mass:	$\frac{a_0}{2h_9} > 0$
Spin:	1
Parity:	Even



Massless particle	
Pole residue:	$-\frac{1}{a_0} > 0$
Polarisations:	2



Unitarity conditions

$$
\begin{aligned}
&(h_{11}\,|\,h_7)\in\mathbb{R}\ \&\&\ a_0<0\ \&\&\\
&((h_8<h_7\ \&\&\ ((h_9<\tfrac{1}{12}(-h_7+h_8)\ \&\&\ \tfrac{1}{2}(2h_{11}+h_7-h_8-12h_9)-\tfrac{1}{2}\sqrt{\tfrac{5}{3}}\sqrt{h_7^2-2h_7h_8+h_8^2+24h_7h_9-24h_8h_9+144h_9^2}\le h_{12}\le\tfrac{1}{2}(2h_{11}+h_7-h_8-12h_9)+\tfrac{1}{2}\sqrt{\tfrac{5}{3}}\sqrt{h_7^2-2h_7h_8+h_8^2+24h_7h_9-24h_8h_9+144h_9^2})\ \|\\
&\quad(h_9==\tfrac{1}{12}(-h_7+h_8)\ \&\&\ h_{12}==\tfrac{1}{2}(2h_{11}+h_7-h_8-12h_9)+\tfrac{1}{2}\sqrt{\tfrac{5}{3}}\sqrt{h_7^2-2h_7h_8+h_8^2+24h_7h_9-24h_8h_9+144h_9^2})\ \|\\
&\quad(\tfrac{1}{12}(-h_7+h_8)<h_9<0\ \&\&\ \tfrac{1}{2}(2h_{11}+h_7-h_8-12h_9)-\tfrac{1}{2}\sqrt{\tfrac{5}{3}}\sqrt{h_7^2-2h_7h_8+h_8^2+24h_7h_9-24h_8h_9+144h_9^2}\le h_{12}\le\tfrac{1}{2}(2h_{11}+h_7-h_8-12h_9)+\tfrac{1}{2}\sqrt{\tfrac{5}{3}}\sqrt{h_7^2-2h_7h_8+h_8^2+24h_7h_9-24h_8h_9+144h_9^2})))\ \|\\
&(h_8==h_7\ \&\&\ h_9<0\ \&\&\ (\tfrac{1}{2}(2h_{11}+h_7-h_8-12h_9)-\tfrac{1}{2}\sqrt{\tfrac{5}{3}}\sqrt{h_7^2-2h_7h_8+h_8^2+24h_7h_9-24h_8h_9+144h_9^2}\le h_{12}<h_{11}+2\sqrt{2}\sqrt{h_7h_9-h_8h_9}\ \|\\
&\quad h_{11}+2\sqrt{2}\sqrt{h_7h_9-h_8h_9}<h_{12}\le\tfrac{1}{2}(2h_{11}+h_7-h_8-12h_9)+\tfrac{1}{2}\sqrt{\tfrac{5}{3}}\sqrt{h_7^2-2h_7h_8+h_8^2+24h_7h_9-24h_8h_9+144h_9^2}))\ \|\\
&(h_8>h_7\ \&\&\ ((h_9<\tfrac{h_7-h_8}{3}-\tfrac{1}{4}\sqrt{\tfrac{5}{3}}\sqrt{h_7^2-2h_7h_8+h_8^2}\ \&\&\ (\tfrac{1}{2}(2h_{11}+h_7-h_8-12h_9)-\tfrac{1}{2}\sqrt{\tfrac{5}{3}}\sqrt{h_7^2-2h_7h_8+h_8^2+24h_7h_9-24h_8h_9+144h_9^2}\le h_{12}<h_{11}-2\sqrt{2}\sqrt{h_7h_9-h_8h_9}\ \|\\
&\quad h_{11}+2\sqrt{2}\sqrt{h_7h_9-h_8h_9}<h_{12}\le\tfrac{1}{2}(2h_{11}+h_7-h_8-12h_9)+\tfrac{1}{2}\sqrt{\tfrac{5}{3}}\sqrt{h_7^2-2h_7h_8+h_8^2+24h_7h_9-24h_8h_9+144h_9^2}))\ \|\\
&\quad(\tfrac{h_7-h_8}{3}-\tfrac{1}{4}\sqrt{\tfrac{5}{3}}\sqrt{h_7^2-2h_7h_8+h_8^2}\le h_9<\tfrac{h_7-h_8}{3}+\tfrac{1}{4}\sqrt{\tfrac{5}{3}}\sqrt{h_7^2-2h_7h_8+h_8^2}\ \&\&\ h_{11}+2\sqrt{2}\sqrt{h_7h_9-h_8h_9}<h_{12}\le\tfrac{1}{2}(2h_{11}+h_7-h_8-12h_9)+\tfrac{1}{2}\sqrt{\tfrac{5}{3}}\sqrt{h_7^2-2h_7h_8+h_8^2+24h_7h_9-24h_8h_9+144h_9^2}))))
\end{aligned}
$$