PSALTer results panel

$$\mathcal{S}==\iiiint\Big(\tfrac{1}{4}\big(-2a_{0}\,\mathcal{A}_{\alpha\chi\beta}\,\mathcal{A}^{\alpha\beta\chi}+2a_{0}\,\mathcal{A}^{\alpha}{}_{\alpha}{}^{\beta}\,\mathcal{A}^{\chi}{}_{\beta\chi}+4\,\mathcal{A}^{\alpha\beta\chi}\,\mathcal{W}_{\alpha\beta\chi}+4\,\mathcal{T}^{\alpha\beta}\,h_{\alpha\beta}+2a_{0}\,h^{\alpha\beta}\,\partial_{\beta}\mathcal{A}_{\alpha}{}^{\chi}{}_{\chi}-2a_{0}\,h^{\alpha\beta}\,\partial_{\chi}\mathcal{A}_{\alpha}{}^{\chi}{}_{\beta}-a_{0}\,h^{\alpha}{}_{\alpha}\,\partial_{\chi}\mathcal{A}^{\beta}{}_{\beta}{}^{\chi}+a_{0}\,h^{\alpha}{}_{\alpha}\,\partial_{\chi}\mathcal{A}^{\beta\chi}{}_{\beta}-h_{1}\,\partial_{\beta}\mathcal{A}_{\chi}{}^{\delta}{}_{\delta}\partial^{\chi}\mathcal{A}^{\alpha}{}_{\alpha}{}^{\beta}-h_{1}\,\partial_{\chi}\mathcal{A}_{\beta}{}^{\delta}{}_{\delta}\partial^{\chi}\mathcal{A}^{\alpha}{}_{\alpha}{}^{\beta}-2h_{1}\,\partial_{\beta}\mathcal{A}^{\alpha\beta\chi}\partial_{\delta}\mathcal{A}_{\alpha}{}^{\delta}{}_{\chi}+4h_{1}\,\partial^{\chi}\mathcal{A}^{\alpha}{}_{\alpha}{}^{\beta}\partial_{\delta}\mathcal{A}_{\beta}{}^{\delta}{}_{\chi}\big)\Big)[t,x,y,z]\,dz\,dy\,dx\,dt$$

Wave operator

	$0^{+}h^{\perp}$	$0^{+}h^{\parallel}$	$0^{+}\mathcal{A}_{s}{}^{\perp t}$	$0^{+}\mathcal{A}_{s}{}^{\parallel}$	$0^{+}\mathcal{A}_{s}{}^{\perp h}$
$0^{+}h^{\perp}\dagger$	0	0	0	$\frac{i a_{0} k}{4}$	$\frac{i a_{0} k}{8\sqrt{2}}$
$0^{+}h^{\parallel}\dagger$	0	0	0	$-\frac{i a_{0} k}{4\sqrt{3}}$	$\frac{5 i a_{0} k}{8\sqrt{6}}$
$0^{+}\mathcal{A}_{s}{}^{\perp t}\dagger$	0	0	0	$\frac{a_{0}}{2}$	$\frac{a_{0}}{4\sqrt{2}}$
$0^{+}\mathcal{A}_{s}{}^{\parallel}\dagger$	$-\frac{1}{4} i a_{0} k$	$\frac{i a_{0} k}{4\sqrt{3}}$	$\frac{a_{0}}{2}$	$-\frac{2k^{2}h_{1}}{3}$	$\frac{3a_{0}+2k^{2}h_{1}}{12\sqrt{2}}$
$0^{+}\mathcal{A}_{s}{}^{\perp h}\dagger$	$-\frac{i a_{0} k}{8\sqrt{2}}$	$-\frac{5 i a_{0} k}{8\sqrt{6}}$	$\frac{a_{0}}{4\sqrt{2}}$	$\frac{3a_{0}+2k^{2}h_{1}}{12\sqrt{2}}$	$\frac{1}{12}(-3a_{0}-7k^{2}h_{1})$

	$1^{+}\mathcal{A}_{s}{}^{\perp}{}_{\alpha\beta}$	$1^{-}h^{\perp}{}_{\alpha}$	$1^{-}\mathcal{A}_{s}{}^{\perp t}{}_{\alpha}$	$1^{-}\mathcal{A}_{s}{}^{\parallel t}{}_{\alpha}$	$1^{-}\mathcal{A}_{s}{}^{\perp h}{}_{\alpha}$	$1^{-}\mathcal{A}_{s}{}^{\parallel h}{}_{\alpha}$
$1^{+}\mathcal{A}_{s}{}^{\perp}\dagger^{\alpha\beta}$	$\frac{a_{0}}{4}$	0	0	0	0	0
$1^{-}h^{\perp}\dagger^{\alpha}$	0	0	$-\frac{i a_{0} k}{4\sqrt{6}}$	$\frac{1}{4} i\sqrt{\frac{5}{6}}\, a_{0} k$	$\frac{i a_{0} k}{8\sqrt{3}}$	$-\frac{i a_{0} k}{4\sqrt{6}}$
$1^{-}\mathcal{A}_{s}{}^{\perp t}\dagger^{\alpha}$	0	$\frac{i a_{0} k}{4\sqrt{6}}$	$\frac{1}{12}(-4a_{0}-k^{2}h_{1})$	$\frac{1}{12}\sqrt{5}\,(2a_{0}+k^{2}h_{1})$	$\frac{a_{0}+k^{2}h_{1}}{12\sqrt{2}}$	$\frac{1}{12}(a_{0}-k^{2}h_{1})$
$1^{-}\mathcal{A}_{s}{}^{\parallel t}\dagger^{\alpha}$	0	$-\frac{1}{4} i\sqrt{\frac{5}{6}}\, a_{0} k$	$\frac{1}{12}\sqrt{5}\,(2a_{0}+k^{2}h_{1})$	$\frac{1}{12}(4a_{0}-5k^{2}h_{1})$	$\frac{1}{12}\sqrt{\frac{5}{2}}\,(a_{0}-k^{2}h_{1})$	$\frac{1}{12}\sqrt{5}\,(a_{0}+k^{2}h_{1})$
$1^{-}\mathcal{A}_{s}{}^{\perp h}\dagger^{\alpha}$	0	$-\frac{i a_{0} k}{8\sqrt{3}}$	$\frac{a_{0}+k^{2}h_{1}}{12\sqrt{2}}$	$\frac{1}{12}\sqrt{\frac{5}{2}}\,(a_{0}-k^{2}h_{1})$	$\frac{1}{24}(2a_{0}-k^{2}h_{1})$	$\frac{-4a_{0}+k^{2}h_{1}}{12\sqrt{2}}$
$1^{-}\mathcal{A}_{s}{}^{\parallel h}\dagger^{\alpha}$	0	$\frac{i a_{0} k}{4\sqrt{6}}$	$\frac{1}{12}(a_{0}-k^{2}h_{1})$	$\frac{1}{12}\sqrt{5}\,(a_{0}+k^{2}h_{1})$	$\frac{-4a_{0}+k^{2}h_{1}}{12\sqrt{2}}$	$\frac{1}{12}(-a_{0}-k^{2}h_{1})$

	$2^{+}h^{\parallel}{}_{\alpha\beta}$	$2^{+}\mathcal{A}_{s}{}^{\parallel}{}_{\alpha\beta}$	$2^{+}\mathcal{A}_{s}{}^{\perp}{}_{\alpha\beta}$	$2^{-}\mathcal{A}_{s}{}^{\parallel}{}_{\alpha\beta\chi}$
$2^{+}h^{\parallel}\dagger^{\alpha\beta}$	0	$-\frac{i a_{0} k}{4\sqrt{3}}$	$-\frac{i a_{0} k}{2\sqrt{6}}$	0
$2^{+}\mathcal{A}_{s}{}^{\parallel}\dagger^{\alpha\beta}$	$\frac{i a_{0} k}{4\sqrt{3}}$	$\frac{1}{6}(-3a_{0}-k^{2}h_{1})$	$-\frac{k^{2}h_{1}}{3\sqrt{2}}$	0
$2^{+}\mathcal{A}_{s}{}^{\perp}\dagger^{\alpha\beta}$	$\frac{i a_{0} k}{2\sqrt{6}}$	$-\frac{k^{2}h_{1}}{3\sqrt{2}}$	$\frac{a_{0}}{4}-\frac{k^{2}h_{1}}{3}$	0
$2^{-}\mathcal{A}_{s}{}^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	0	$\frac{a_{0}}{4}$

	$3^{-}\mathcal{A}_{s}{}^{\parallel}{}_{\alpha\beta\chi}$
$3^{-}\mathcal{A}_{s}{}^{\parallel}\dagger^{\alpha\beta\chi}$	$-\frac{a_{0}}{2}$

Saturated propagator

	$0^{+}\mathcal{T}^{\perp}$	$0^{+}\mathcal{T}^{\parallel}$	$0^{+}\mathcal{W}_{s}{}^{\perp t}$	$0^{+}\mathcal{W}_{s}{}^{\parallel}$	$0^{+}\mathcal{W}_{s}{}^{\perp h}$
$0^{+}\mathcal{T}^{\perp}\dagger$	$-\frac{4k^{2}(a_{0}-6k^{2}h_{1})}{3a_{0}{}^{2}(4+k^{2})^{2}}$	0	$-\frac{8ik(a_{0}-6k^{2}h_{1})}{3a_{0}{}^{2}(4+k^{2})^{2}}$	$\frac{10ik}{12a_{0}+3a_{0}k^{2}}$	$\frac{4i\sqrt{2}\,k}{12a_{0}+3a_{0}k^{2}}$
$0^{+}\mathcal{T}^{\parallel}\dagger$	0	$\frac{4(\frac{a_{0}}{k^{2}}+2h_{1})}{a_{0}{}^{2}}$	0	$-\frac{2i}{\sqrt{3}\,a_{0}k}$	$\frac{4i\sqrt{\frac{2}{3}}}{a_{0}k}$
$0^{+}\mathcal{W}_{s}{}^{\perp t}\dagger$	$\frac{8ik(a_{0}-6k^{2}h_{1})}{3a_{0}{}^{2}(4+k^{2})^{2}}$	0	$-\frac{16(a_{0}-6k^{2}h_{1})}{3a_{0}{}^{2}(4+k^{2})^{2}}$	$\frac{20}{12a_{0}+3a_{0}k^{2}}$	$\frac{8\sqrt{2}}{12a_{0}+3a_{0}k^{2}}$
$0^{+}\mathcal{W}_{s}{}^{\parallel}\dagger$	$-\frac{10ik}{12a_{0}+3a_{0}k^{2}}$	$\frac{2i}{\sqrt{3}\,a_{0}k}$	$\frac{20}{12a_{0}+3a_{0}k^{2}}$	0	0
$0^{+}\mathcal{W}_{s}{}^{\perp h}\dagger$	$-\frac{4i\sqrt{2}\,k}{12a_{0}+3a_{0}k^{2}}$	$-\frac{4i\sqrt{\frac{2}{3}}}{a_{0}k}$	$\frac{8\sqrt{2}}{12a_{0}+3a_{0}k^{2}}$	0	0

	$1^{+}\mathcal{W}_{s}{}^{\perp}{}_{\alpha\beta}$	$1^{-}\mathcal{T}^{\perp}{}_{\alpha}$	$1^{-}\mathcal{W}_{s}{}^{\perp t}{}_{\alpha}$	$1^{-}\mathcal{W}_{s}{}^{\parallel t}{}_{\alpha}$	$1^{-}\mathcal{W}_{s}{}^{\perp h}{}_{\alpha}$	$1^{-}\mathcal{W}_{s}{}^{\parallel h}{}_{\alpha}$
$1^{+}\mathcal{W}_{s}{}^{\perp}\dagger^{\alpha\beta}$	$\frac{4}{a_{0}}$	0	0	0	0	0
$1^{-}\mathcal{T}^{\perp}\dagger^{\alpha}$	0	$\frac{2k^{2}(a_{0}+4k^{2}h_{1})}{a_{0}{}^{2}(2+k^{2})^{2}}$	$-\frac{2i\sqrt{\frac{2}{3}}\,k(a_{0}+a_{0}k^{2}-4k^{2}h_{1})}{a_{0}{}^{2}(2+k^{2})^{2}}$	$\frac{i\sqrt{\frac{10}{3}}\,k}{a_{0}(2+k^{2})}$	$\frac{2ik(a_{0}(4+k^{2})+8k^{2}h_{1})}{\sqrt{3}\,a_{0}{}^{2}(2+k^{2})^{2}}$	$-\frac{4i\sqrt{\frac{2}{3}}\,k}{a_{0}(2+k^{2})}$
$1^{-}\mathcal{W}_{s}{}^{\perp t}\dagger^{\alpha}$	0	$\frac{2i\sqrt{\frac{2}{3}}\,k(a_{0}+a_{0}k^{2}-4k^{2}h_{1})}{a_{0}{}^{2}(2+k^{2})^{2}}$	$\frac{-4a_{0}(13+10k^{2}+k^{4})+48k^{2}h_{1}}{9a_{0}{}^{2}(2+k^{2})^{2}}$	$\frac{2\sqrt{5}\,(5+k^{2})}{9a_{0}(2+k^{2})}$	$\frac{2\sqrt{2}\,(a_{0}(4+k^{2}+k^{4})+24k^{2}h_{1})}{9a_{0}{}^{2}(2+k^{2})^{2}}$	$\frac{8+16k^{2}}{18a_{0}+9a_{0}k^{2}}$
$1^{-}\mathcal{W}_{s}{}^{\parallel t}\dagger^{\alpha}$	0	$-\frac{i\sqrt{\frac{10}{3}}\,k}{a_{0}(2+k^{2})}$	$\frac{2\sqrt{5}\,(5+k^{2})}{9a_{0}(2+k^{2})}$	$\frac{7}{9a_{0}}$	$-\frac{\sqrt{10}\,(-4+k^{2})}{9a_{0}(2+k^{2})}$	$\frac{4\sqrt{5}}{9a_{0}}$
$1^{-}\mathcal{W}_{s}{}^{\perp h}\dagger^{\alpha}$	0	$-\frac{2ik(a_{0}(4+k^{2})+8k^{2}h_{1})}{\sqrt{3}\,a_{0}{}^{2}(2+k^{2})^{2}}$	$\frac{2\sqrt{2}\,(a_{0}(4+k^{2}+k^{4})+24k^{2}h_{1})}{9a_{0}{}^{2}(2+k^{2})^{2}}$	$-\frac{\sqrt{10}\,(-4+k^{2})}{9a_{0}(2+k^{2})}$	$\frac{-2a_{0}(-32-8k^{2}+k^{4})+96k^{2}h_{1}}{9a_{0}{}^{2}(2+k^{2})^{2}}$	$-\frac{8\sqrt{2}\,(5+k^{2})}{9a_{0}(2+k^{2})}$
$1^{-}\mathcal{W}_{s}{}^{\parallel h}\dagger^{\alpha}$	0	$\frac{4i\sqrt{\frac{2}{3}}\,k}{a_{0}(2+k^{2})}$	$\frac{8+16k^{2}}{18a_{0}+9a_{0}k^{2}}$	$\frac{4\sqrt{5}}{9a_{0}}$	$-\frac{8\sqrt{2}\,(5+k^{2})}{9a_{0}(2+k^{2})}$	$-\frac{4}{9a_{0}}$

	$2^{+}\mathcal{T}^{\parallel}{}_{\alpha\beta}$	$2^{+}\mathcal{W}_{s}{}^{\parallel}{}_{\alpha\beta}$	$2^{+}\mathcal{W}_{s}{}^{\perp}{}_{\alpha\beta}$	$2^{-}\mathcal{W}_{s}{}^{\parallel}{}_{\alpha\beta\chi}$
$2^{+}\mathcal{T}^{\parallel}\dagger^{\alpha\beta}$	$\frac{8(-\frac{a_{0}}{k^{2}}+h_{1})}{a_{0}{}^{2}}$	$\frac{4i}{\sqrt{3}\,a_{0}k}$	$-\frac{8i\sqrt{\frac{2}{3}}}{a_{0}k}$	0
$2^{+}\mathcal{W}_{s}{}^{\parallel}\dagger^{\alpha\beta}$	$-\frac{4i}{\sqrt{3}\,a_{0}k}$	$-\frac{8}{3a_{0}}$	$\frac{4\sqrt{2}}{3a_{0}}$	0
$2^{+}\mathcal{W}_{s}{}^{\perp}\dagger^{\alpha\beta}$	$\frac{8i\sqrt{\frac{2}{3}}}{a_{0}k}$	$\frac{4\sqrt{2}}{3a_{0}}$	$-\frac{4}{3a_{0}}$	0
$2^{-}\mathcal{W}_{s}{}^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	0	$\frac{4}{a_{0}}$

	$3^{-}\mathcal{W}_{s}{}^{\parallel}{}_{\alpha\beta\chi}$
$3^{-}\mathcal{W}_{s}{}^{\parallel}\dagger^{\alpha\beta\chi}$	$-\frac{2}{a_{0}}$

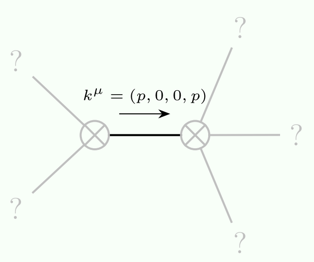
Source constraints

Spin-parity form	Covariant form	Multiplicities
$k\,0^{+}\mathcal{W}_{s}{}^{\perp t}+2i\,0^{+}\mathcal{T}^{\perp}==0$	$2\,\partial_{\beta}\partial_{\alpha}\mathcal{T}^{\alpha\beta}==\partial_{\chi}\partial_{\beta}\partial_{\alpha}\mathcal{W}^{\alpha\beta\chi}$	1
$2k\,1^{-}\mathcal{W}_{s}{}^{\perp h\alpha}+k\,1^{-}\mathcal{W}_{s}{}^{\perp t\alpha}+6i\,1^{-}\mathcal{T}^{\perp\alpha}==0$	$2\,\partial_{\chi}\partial_{\beta}\partial^{\alpha}\mathcal{T}^{\beta\chi}+\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial_{\beta}\mathcal{W}^{\beta\alpha\chi}==2\,\partial_{\chi}\partial^{\chi}\partial_{\beta}\mathcal{T}^{\alpha\beta}+\partial_{\delta}\partial_{\chi}\partial_{\beta}\partial^{\alpha}\mathcal{W}^{\beta\chi\delta}$	3
Total expected gauge generators:		4

Massive spectrum

(No particles)

Massless spectrum



Massless particle

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

Unitarity conditions

$a_{0}<0$