PSALTer results panel

$$\mathcal{S}==\iiiint\Big(\tfrac{1}{6}\big(2t_{1}\,\mathcal{A}^{\alpha\iota}{}_{\alpha}\,\mathcal{A}_{\iota}{}^{\theta}{}_{\theta}+6\,\mathcal{A}^{\alpha\beta\chi}\,\sigma_{\alpha\beta\chi}+6\,f^{\alpha\beta}\,\tau(\Delta+\mathcal{K})_{\alpha\beta}-4t_{1}\,\mathcal{A}_{\alpha}{}^{\theta}{}_{\theta}\,\partial_{\iota}f^{\alpha\iota}+4t_{1}\,\mathcal{A}_{\iota}{}^{\theta}{}_{\theta}\,\partial^{\iota}f^{\alpha}{}_{\alpha}-2t_{1}\,\partial_{\iota}f^{\theta}{}_{\theta}\,\partial^{\iota}f^{\alpha}{}_{\alpha}-2t_{1}\,\partial_{\iota}f^{\alpha\iota}\,\partial_{\theta}f_{\alpha}{}^{\theta}+$$
$$4t_{1}\,\partial^{\iota}f^{\alpha}{}_{\alpha}\,\partial_{\theta}f_{\iota}{}^{\theta}+8r_{2}\,\partial_{\beta}\mathcal{A}_{\alpha\iota\theta}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\iota}-4r_{2}\,\partial_{\beta}\mathcal{A}_{\alpha\theta\iota}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\iota}+4r_{2}\,\partial_{\beta}\mathcal{A}_{\iota\theta\alpha}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\iota}-2r_{2}\,\partial_{\iota}\mathcal{A}_{\alpha\beta\theta}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\iota}+2r_{2}\,\partial_{\theta}\mathcal{A}_{\alpha\beta\iota}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\iota}-4r_{2}\,\partial_{\theta}\mathcal{A}_{\alpha\iota\beta}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\iota}+6r_{5}\,\partial_{\iota}\mathcal{A}_{\theta}{}^{\kappa}{}_{\kappa}\,\partial^{\theta}\mathcal{A}^{\alpha\iota}{}_{\alpha}-6r_{5}\,\partial_{\theta}\mathcal{A}_{\iota}{}^{\kappa}{}_{\kappa}\,\partial^{\theta}\mathcal{A}^{\alpha\iota}{}_{\alpha}-6t_{1}\,\partial_{\alpha}f_{\iota\theta}\,\partial^{\theta}f^{\alpha\iota}-$$
$$3t_{1}\,\partial_{\alpha}f_{\theta\iota}\,\partial^{\theta}f^{\alpha\iota}+3t_{1}\,\partial_{\iota}f_{\alpha\theta}\,\partial^{\theta}f^{\alpha\iota}+3t_{1}\,\partial_{\theta}f_{\alpha\iota}\,\partial^{\theta}f^{\alpha\iota}+3t_{1}\,\partial_{\theta}f_{\iota\alpha}\,\partial^{\theta}f^{\alpha\iota}+6t_{1}\,\mathcal{A}_{\alpha\theta\iota}\,(\mathcal{A}^{\alpha\iota\theta}+2\,\partial^{\theta}f^{\alpha\iota})-6r_{5}\,\partial_{\alpha}\mathcal{A}^{\alpha\iota\theta}\,\partial_{\kappa}\mathcal{A}_{\iota}{}^{\kappa}{}_{\theta}+12r_{5}\,\partial^{\theta}\mathcal{A}^{\alpha\iota}{}_{\alpha}\,\partial_{\kappa}\mathcal{A}_{\iota}{}^{\kappa}{}_{\theta}+6r_{5}\,\partial_{\alpha}\mathcal{A}^{\alpha\iota\theta}\,\partial_{\kappa}\mathcal{A}_{\theta}{}^{\kappa}{}_{\iota}-12r_{5}\,\partial^{\theta}\mathcal{A}^{\alpha\iota}{}_{\alpha}\,\partial_{\kappa}\mathcal{A}_{\theta}{}^{\kappa}{}_{\iota}\big)\Big)[t,x,y,z]\,dz\,dy\,dx\,dt$$

Wave operator

	$^{0^+}\mathcal{A}^{\parallel}$	$^{0^+}f^{\parallel}$	$^{0^+}f^{\perp}$	$^{0^-}\mathcal{A}^{\parallel}$
$^{0^+}\mathcal{A}^{\parallel}\dagger$	0	0	0	0
$^{0^+}f^{\parallel}\dagger$	0	0	0	0
$^{0^+}f^{\perp}\dagger$	0	0	0	0
$^{0^-}\mathcal{A}^{\parallel}\dagger$	0	0	0	$k^2 r_{2}-t_{1}$

	$^{1^+}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$^{1^+}\mathcal{A}^{\perp}{}_{\alpha\beta}$	$^{1^+}f^{\parallel}{}_{\alpha\beta}$	$^{1^-}\mathcal{A}^{\parallel}{}_{\alpha}$	$^{1^-}\mathcal{A}^{\perp}{}_{\alpha}$	$^{1^-}f^{\parallel}{}_{\alpha}$	$^{1^-}f^{\perp}{}_{\alpha}$
$^{1^+}\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$k^2 r_{5}-\frac{t_{1}}{2}$	$-\frac{t_{1}}{\sqrt{2}}$	$-\frac{i k t_{1}}{\sqrt{2}}$	0	0	0	0
$^{1^+}\mathcal{A}^{\perp}\dagger^{\alpha\beta}$	$-\frac{t_{1}}{\sqrt{2}}$	0	0	0	0	0	0
$^{1^+}f^{\parallel}\dagger^{\alpha\beta}$	$\frac{i k t_{1}}{\sqrt{2}}$	0	0	0	0	0	0
$^{1^-}\mathcal{A}^{\parallel}\dagger^{\alpha}$	0	0	0	$k^2 r_{5}+\frac{t_{1}}{6}$	$\frac{t_{1}}{3\sqrt{2}}$	0	$\frac{i k t_{1}}{3}$
$^{1^-}\mathcal{A}^{\perp}\dagger^{\alpha}$	0	0	0	$\frac{t_{1}}{3\sqrt{2}}$	$\frac{t_{1}}{3}$	0	$\frac{1}{3} i \sqrt{2}\, k t_{1}$
$^{1^-}f^{\parallel}\dagger^{\alpha}$	0	0	0	0	0	0	0
$^{1^-}f^{\perp}\dagger^{\alpha}$	0	0	0	$-\frac{1}{3} i k t_{1}$	$-\frac{1}{3} i \sqrt{2}\, k t_{1}$	0	$\frac{2 k^2 t_{1}}{3}$

	$^{2^+}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$^{2^+}f^{\parallel}{}_{\alpha\beta}$	$^{2^-}\mathcal{A}^{\parallel}{}_{\alpha\beta\chi}$
$^{2^+}\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$\frac{t_{1}}{2}$	$-\frac{i k t_{1}}{\sqrt{2}}$	0
$^{2^+}f^{\parallel}\dagger^{\alpha\beta}$	$\frac{i k t_{1}}{\sqrt{2}}$	$k^2 t_{1}$	0
$^{2^-}\mathcal{A}^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	$\frac{t_{1}}{2}$

Saturated propagator

	$^{0^+}\sigma^{\parallel}$	$^{0^+}\tau^{\parallel}$	$^{0^+}\tau^{\perp}$	$^{0^-}\sigma^{\parallel}$
$^{0^+}\sigma^{\parallel}\dagger$	0	0	0	0
$^{0^+}\tau^{\parallel}\dagger$	0	0	0	0
$^{0^+}\tau^{\perp}\dagger$	0	0	0	0
$^{0^-}\sigma^{\parallel}\dagger$	0	0	0	$\frac{1}{k^2 r_{2}-t_{1}}$

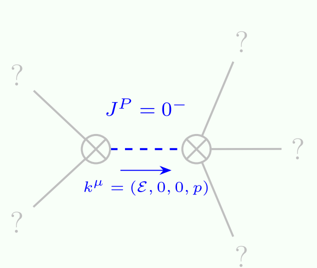
	$^{1^+}\sigma^{\parallel}{}_{\alpha\beta}$	$^{1^+}\sigma^{\perp}{}_{\alpha\beta}$	$^{1^+}\tau^{\parallel}{}_{\alpha\beta}$	$^{1^-}\sigma^{\parallel}{}_{\alpha}$	$^{1^-}\sigma^{\perp}{}_{\alpha}$	$^{1^-}\tau^{\parallel}{}_{\alpha}$	$^{1^-}\tau^{\perp}{}_{\alpha}$
$^{1^+}\sigma^{\parallel}\dagger^{\alpha\beta}$	0	$-\frac{\sqrt{2}}{t_{1}+k^2 t_{1}}$	$-\frac{i\sqrt{2}\,k}{t_{1}+k^2 t_{1}}$	0	0	0	0
$^{1^+}\sigma^{\perp}\dagger^{\alpha\beta}$	$-\frac{\sqrt{2}}{t_{1}+k^2 t_{1}}$	$\frac{-2k^2 r_{5}+t_{1}}{(1+k^2)^2 t_{1}^2}$	$-\frac{i(2k^3 r_{5}-k t_{1})}{(1+k^2)^2 t_{1}^2}$	0	0	0	0
$^{1^+}\tau^{\parallel}\dagger^{\alpha\beta}$	$\frac{i\sqrt{2}\,k}{t_{1}+k^2 t_{1}}$	$\frac{i(2k^3 r_{5}-k t_{1})}{(1+k^2)^2 t_{1}^2}$	$\frac{-2k^4 r_{5}+k^2 t_{1}}{(1+k^2)^2 t_{1}^2}$	0	0	0	0
$^{1^-}\sigma^{\parallel}\dagger^{\alpha}$	0	0	0	$\frac{1}{k^2 r_{5}}$	$-\frac{1}{\sqrt{2}\,(k^2 r_{5}+2k^4 r_{5})}$	0	$-\frac{i}{k r_{5}+2k^3 r_{5}}$
$^{1^-}\sigma^{\perp}\dagger^{\alpha}$	0	0	0	$-\frac{1}{\sqrt{2}\,(k^2 r_{5}+2k^4 r_{5})}$	$\frac{6k^2 r_{5}+t_{1}}{2(k+2k^3)^2 r_{5} t_{1}}$	0	$\frac{i(6k^2 r_{5}+t_{1})}{\sqrt{2}\,k(1+2k^2)^2 r_{5} t_{1}}$
$^{1^-}\tau^{\parallel}\dagger^{\alpha}$	0	0	0	0	0	0	0
$^{1^-}\tau^{\perp}\dagger^{\alpha}$	0	0	0	$\frac{i}{k r_{5}+2k^3 r_{5}}$	$-\frac{i(6k^2 r_{5}+t_{1})}{\sqrt{2}\,k(1+2k^2)^2 r_{5} t_{1}}$	0	$\frac{6k^2 r_{5}+t_{1}}{(1+2k^2)^2 r_{5} t_{1}}$

	$^{2^+}\sigma^{\parallel}{}_{\alpha\beta}$	$^{2^+}\tau^{\parallel}{}_{\alpha\beta}$	$^{2^-}\sigma^{\parallel}{}_{\alpha\beta\chi}$
$^{2^+}\sigma^{\parallel}\dagger^{\alpha\beta}$	$\frac{2}{(1+2k^2)^2 t_{1}}$	$-\frac{2i\sqrt{2}\,k}{(1+2k^2)^2 t_{1}}$	0
$^{2^+}\tau^{\parallel}\dagger^{\alpha\beta}$	$\frac{2i\sqrt{2}\,k}{(1+2k^2)^2 t_{1}}$	$\frac{4k^2}{(1+2k^2)^2 t_{1}}$	0
$^{2^-}\sigma^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	$\frac{2}{t_{1}}$

Source constraints

Spin-parity form	Covariant form	Multiplicities
$^{0^+}\tau^{\perp}==0$	$\partial_{\beta}\partial_{\alpha}\tau(\Delta+\mathcal{K})^{\alpha\beta}==0$	1
$^{0^+}\tau^{\parallel}==0$	$\partial_{\beta}\partial_{\alpha}\tau(\Delta+\mathcal{K})^{\alpha\beta}==\partial_{\beta}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha}{}_{\alpha}$	1
$^{0^+}\sigma^{\parallel}==0$	$\partial_{\beta}\sigma^{\alpha}{}_{\alpha}{}^{\beta}==0$	1
$2ik\,^{1^-}\sigma^{\perp\alpha}+{}^{1^-}\tau^{\perp\alpha}==0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi}==\partial_{\chi}\partial^{\chi}\partial_{\beta}\tau(\Delta+\mathcal{K})^{\alpha\beta}+2\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi}$	3
$^{1^-}\tau^{\parallel\alpha}==0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi}==\partial_{\chi}\partial^{\chi}\partial_{\beta}\tau(\Delta+\mathcal{K})^{\beta\alpha}$	3
$ik\,^{1^+}\sigma^{\perp\alpha\beta}+{}^{1^+}\tau^{\parallel\alpha\beta}==0$	$\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi}+\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\chi\alpha}+\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\alpha\beta}+2\,\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta}+2\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\chi\alpha\beta}==\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\beta}+\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha\chi}+\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\beta\alpha}+2\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta}$	3
$-2ik\,^{2^+}\sigma^{\parallel\alpha\beta}+{}^{2^+}\tau^{\parallel\alpha\beta}==0$	$-i(4\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\delta}+2\,\partial_{\delta}\partial^{\delta}\partial^{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi}{}_{\chi}-3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi}-3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\beta}-3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha\chi}-3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\chi\alpha}+3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\alpha\beta}+3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\beta\alpha}+$ $4i\,k^{\chi}\,\partial_{\epsilon}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\sigma^{\delta}{}_{\delta}{}^{\epsilon}-6i\,k^{\chi}\,\partial_{\epsilon}\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\delta\beta\epsilon}-6i\,k^{\chi}\,\partial_{\epsilon}\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\delta\alpha\epsilon}+6i\,k^{\chi}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\sigma^{\alpha\beta\delta}+6i\,k^{\chi}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\sigma^{\beta\alpha\delta}+2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\tau(\Delta+\mathcal{K})^{\chi\delta}-2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\tau(\Delta+\mathcal{K})^{\chi}{}_{\chi}-4i\,\eta^{\alpha\beta}\,k^{\chi}\,\partial_{\phi}\partial^{\phi}\partial_{\epsilon}\partial_{\chi}\sigma^{\delta}{}_{\delta}{}^{\epsilon})==0$	5
Total expected gauge generators:		17

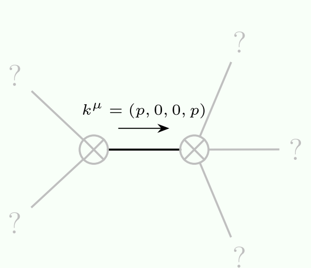
Massive spectrum



Massive particle

Pole residue:	$-\frac{1}{r_{2}}>0$
Square mass:	$\frac{t_{1}}{r_{2}}>0$
Spin:	0
Parity:	Odd

Massless spectrum



Massless particle

Pole residue:	$-\frac{7}{r_{5}}-\frac{2p^2}{t_{1}}-\frac{4r_{5}p^4}{t_{1}^2}>0$
Polarisations:	2

Unitarity conditions

$r_{2}<0\,\&\&\,t_{1}<0\,\&\&\,r_{5}<0$