PSALTer results panel

$$\mathcal{S} == \int\int\int\int (\frac{1}{6}(2\,t_{.1}\,\mathcal{A}^{\alpha\imath}{}_{\alpha}\,\mathcal{A}_{\imath}{}^{\theta}{}_{\theta} + 6\,\mathcal{A}^{\alpha\beta\chi}\,\sigma_{\alpha\beta\chi} + 6\,f^{\alpha\beta}\,\tau(\Delta+\mathcal{K})_{\alpha\beta} - 4\,t_{.1}\,\mathcal{A}_{\alpha}{}^{\theta}{}_{\theta}\,\partial_{\imath}f^{\alpha\imath} + 4\,t_{.1}\,\mathcal{A}_{\imath}{}^{\theta}{}_{\theta}\,\partial^{\imath}f^{\alpha}{}_{\alpha} - 2\,t_{.1}\,\partial_{\imath}f^{\theta}{}_{\theta}\,\partial^{\imath}f^{\alpha}{}_{\alpha} - 2\,t_{.1}\,\partial_{\imath}f^{\alpha\imath}\,\partial_{\theta}f_{\alpha}{}^{\theta} + 4\,t_{.1}\,\partial^{\imath}f^{\alpha}{}_{\alpha}\,\partial_{\theta}f_{\imath}{}^{\theta} - 8\,r_{.1}\,\partial_{\beta}\mathcal{A}_{\alpha\imath\theta}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\imath} + 4\,r_{.1}\,\partial_{\beta}\mathcal{A}_{\alpha\theta\imath}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\imath} - 16\,r_{.1}\,\partial_{\beta}\mathcal{A}_{\imath\theta\alpha}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\imath} - 4\,r_{.1}\,\partial_{\imath}\mathcal{A}_{\alpha\beta\theta}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\imath} + 4\,r_{.1}\,\partial_{\theta}\mathcal{A}_{\alpha\beta\imath}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\imath} + 4\,r_{.1}\,\partial_{\theta}\mathcal{A}_{\alpha\imath\beta}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\imath} + 6\,r_{.5}\,\partial_{\imath}\mathcal{A}_{\theta}{}^{\kappa}{}_{\kappa}\,\partial^{\theta}\mathcal{A}^{\alpha\imath}{}_{\alpha} - 6\,r_{.5}\,\partial_{\theta}\mathcal{A}_{\imath}{}^{\kappa}{}_{\kappa}\,\partial^{\theta}\mathcal{A}^{\alpha\imath}{}_{\alpha} - 6\,t_{.1}\,\partial_{\alpha}f_{\imath\theta}\,\partial^{\theta}f^{\alpha\imath} - 3\,t_{.1}\,\partial_{\alpha}f_{\theta\imath}\,\partial^{\theta}f^{\alpha\imath} + 3\,t_{.1}\,\partial_{\imath}f_{\alpha\theta}\,\partial^{\theta}f^{\alpha\imath} + 3\,t_{.1}\,\partial_{\theta}f_{\alpha\imath}\,\partial^{\theta}f^{\alpha\imath} + 3\,t_{.1}\,\partial_{\theta}f_{\imath\alpha}\,\partial^{\theta}f^{\alpha\imath} + 6\,t_{.1}\,\mathcal{A}_{\alpha\theta\imath}\,(\mathcal{A}^{\alpha\imath\theta} + 2\,\partial^{\theta}f^{\alpha\imath}) - 6\,r_{.5}\,\partial_{\alpha}\mathcal{A}^{\alpha\imath\theta}\,\partial_{\kappa}\mathcal{A}_{\imath}{}^{\kappa}{}_{\theta} + 12\,r_{.5}\,\partial^{\theta}\mathcal{A}^{\alpha\imath}{}_{\alpha}\,\partial_{\kappa}\mathcal{A}_{\imath}{}^{\kappa}{}_{\theta} + 6\,r_{.5}\,\partial_{\alpha}\mathcal{A}^{\alpha\imath\theta}\,\partial_{\kappa}\mathcal{A}_{\theta}{}^{\kappa}{}_{\imath} - 12\,r_{.5}\,\partial^{\theta}\mathcal{A}^{\alpha\imath}{}_{\alpha}\,\partial_{\kappa}\mathcal{A}_{\theta}{}^{\kappa}{}_{\imath}))[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	$-t_{.1}$

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

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	$-\frac{1}{t_{.1}}$

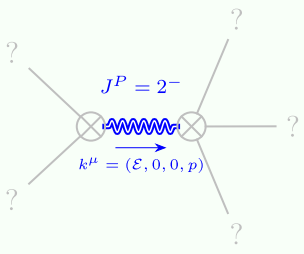
	$1^+_{.}\sigma^{\parallel}{}_{\alpha\beta}$	$1^+_{.}\sigma^{\perp}{}_{\alpha\beta}$	$1^+_{.}\tau^{\parallel}{}_{\alpha\beta}$	$1^-_{.}\sigma^{\parallel}{}_{\alpha}$	$1^-_{.}\sigma^{\perp}{}_{\alpha}$	$1^-_{.}\tau^{\parallel}{}_{\alpha}$	$1^-_{.}\tau^{\perp}{}_{\alpha}$
$1^+_{.}\sigma^{\parallel}\,\dagger^{\alpha\beta}$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

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

Source constraints

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

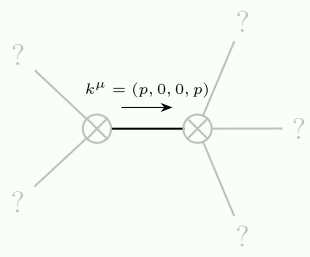
Massive spectrum



Massive particle

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

Massless spectrum



Massless particle

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

Unitarity conditions

$r_{.1} < 0\;\&\&\;r_{.5} < -r_{.1}\;\&\&\;t_{.1} > 0$