PSALTer results panel

$$S == \int\int\int\int \left(\frac{1}{6}\left(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^{\prime} f^{\alpha}{}_{\alpha} - 2 t_{1}.\ \partial_{\imath} f^{\theta}{}_{\theta}\ \partial^{\prime} f^{\alpha}{}_{\alpha} - 2 t_{1}.\ \partial_{\imath} f^{\alpha\imath}\ \partial_{\theta} f_{\alpha}{}^{\theta} + 4 t_{1}.\ \partial^{\prime} 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})\right)[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	$-\frac{1}{t_{1}.}$

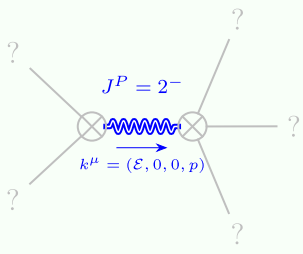
	$1^{+}_{.}\sigma^{\parallel}{}_{\alpha\beta}$	$1^{+}_{.}\sigma^{\perp}{}_{\alpha\beta}$	$1^{+}_{.}\tau^{\parallel}{}_{\alpha\beta}$	$1^{-}_{.}\sigma^{\parallel}{}_{\alpha}$	$1^{-}_{.}\sigma^{\perp}{}_{\alpha}$	$1^{-}_{.}\tau^{\parallel}{}_{\alpha}$	$1^{-}_{.}\tau^{\perp}{}_{\alpha}$
$1^{+}_{.}\sigma^{\parallel}\,\dagger^{\alpha\beta}$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

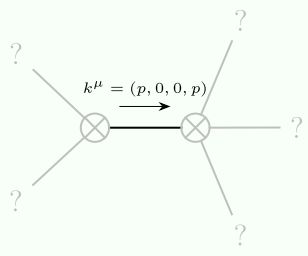
Massive spectrum



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

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