PSALTer results panel

$$S == \int\int\int\int (\frac{1}{6} (6\, \mathcal{R}^{\alpha\beta\chi}{}_{\sigma}\, \sigma_{\alpha\beta\chi} + 6\, f^{\alpha\beta}\, \tau (\Delta+\mathcal{K})_{\alpha\beta} + 8 r_{2}. \partial_{\beta}\mathcal{R}_{\alpha\iota\theta}{}^{\theta}\mathcal{R}^{\alpha\beta\iota} - 4 r_{2}. \partial_{\beta}\mathcal{R}_{\alpha\theta\iota}{}^{\theta}\mathcal{R}^{\alpha\beta\iota} + 4 r_{2}. \partial_{\beta}\mathcal{R}_{\iota\theta\alpha}{}^{\theta}\mathcal{R}^{\alpha\beta\iota} - 2 r_{2}. \partial_{\iota}\mathcal{R}_{\alpha\beta\theta}{}^{\theta}\mathcal{R}^{\alpha\beta\iota} + 2 r_{2}. \partial_{\theta}\mathcal{R}_{\alpha\beta\iota}{}^{\theta}\mathcal{R}^{\alpha\beta\iota} - 4 r_{2}. \partial_{\theta}\mathcal{R}_{\alpha\iota\beta}{}^{\theta}\mathcal{R}^{\alpha\beta\iota} + 4 t_{2}. \mathcal{R}_{\iota\theta\alpha}{}^{\theta}f^{\alpha\iota} + 2 t_{2}. \partial_{\alpha}f_{\iota\theta}\partial^{\theta}f^{\alpha\iota} - t_{2}. \partial_{\alpha}f_{\theta\iota}\partial^{\theta}f^{\alpha\iota} - t_{2}. \partial_{\iota}f_{\alpha\theta}\partial^{\theta}f^{\alpha\iota} + t_{2}. \partial_{\theta}f_{\alpha\iota}\partial^{\theta}f^{\alpha\iota} - t_{2}. \partial_{\theta}f_{\iota\alpha}\partial^{\theta}f^{\alpha\iota} - 4 t_{2}. \mathcal{R}_{\alpha\theta\iota}{}^{\theta}(\mathcal{R}^{\alpha\iota\theta} + \partial^{\theta}f^{\alpha\iota}) + 2 t_{2}. \mathcal{R}_{\alpha\iota\theta}{}^{\theta}(\mathcal{R}^{\alpha\iota\theta} + 2\partial^{\theta}f^{\alpha\iota}) - 12 r_{4}. \partial_{\theta}\mathcal{R}_{\kappa}{}^{\lambda}{}_{\lambda}\partial^{\kappa}\mathcal{R}^{\alpha\theta}{}_{\alpha} - 12 r_{4}. \partial_{\alpha}\mathcal{R}^{\alpha\theta\kappa}\partial_{\lambda}\mathcal{R}_{\kappa}{}^{\lambda}{}_{\theta} + 24 r_{4}. \partial^{\kappa}\mathcal{R}^{\alpha\theta}{}_{\alpha}\partial_{\lambda}\mathcal{R}_{\kappa}{}^{\lambda}{}_{\theta} - 24 r_{3}. \partial_{\beta}\mathcal{R}_{\iota\lambda\alpha}\partial^{\lambda}\mathcal{R}^{\alpha\beta\iota}))[t, x, y, z]\, dz\, dy\, dx\, dt$$

Wave operator

	$0^+_{.}\mathcal{R}^{\parallel}$	$0^+_{.}f^{\parallel}$	$0^+_{.}f^{\perp}$	$0^-_{.}\mathcal{R}^{\parallel}$
$0^+_{.}\mathcal{R}^{\parallel}\,\dagger$	$-2k^2(r_{3}. - 2r_{4}.)$	0	0	0
$0^+_{.}f^{\parallel}\,\dagger$	0	0	0	0
$0^+_{.}f^{\perp}\,\dagger$	0	0	0	0
$0^-_{.}\mathcal{R}^{\parallel}\,\dagger$	0	0	0	$k^2 r_{2}. + t_{2}.$

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

	$2^+_{.}\mathcal{R}^{\parallel}{}_{\alpha\beta}$	$2^+_{.}f^{\parallel}{}_{\alpha\beta}$	$2^-_{.}\mathcal{R}^{\parallel}{}_{\alpha\beta\chi}$
$2^+_{.}\mathcal{R}^{\parallel}\,\dagger^{\alpha\beta}$	$k^2(-2r_{3}. + r_{4}.)$	0	0
$2^+_{.}f^{\parallel}\,\dagger^{\alpha\beta}$	0	0	0
$2^-_{.}\mathcal{R}^{\parallel}\,\dagger^{\alpha\beta\chi}$	0	0	0

Saturated propagator

	$0^+_{.}\sigma^{\parallel}$	$0^+_{.}\tau^{\parallel}$	$0^+_{.}\tau^{\perp}$	$0^-_{.}\sigma^{\parallel}$
$0^+_{.}\sigma^{\parallel}\,\dagger$	$\frac{1}{-2k^2 r_{3}. + 4k^2 r_{4}.}$	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	$\frac{1}{k^2 r_{2}. + t_{2}.}$

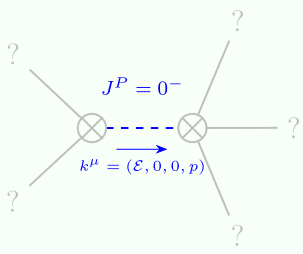
	$1^+_{.}\sigma^{\parallel}{}_{\alpha\beta}$	$1^+_{.}\sigma^{\perp}{}_{\alpha\beta}$	$1^+_{.}\tau^{\parallel}{}_{\alpha\beta}$	$1^-_{.}\sigma^{\parallel}{}_{\alpha}$	$1^-_{.}\sigma^{\perp}{}_{\alpha}$	$1^-_{.}\tau^{\parallel}{}_{\alpha}$	$1^-_{.}\tau^{\perp}{}_{\alpha}$
$1^+_{.}\sigma^{\parallel}\,\dagger^{\alpha\beta}$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

	$2^+_{.}\sigma^{\parallel}{}_{\alpha\beta}$	$2^+_{.}\tau^{\parallel}{}_{\alpha\beta}$	$2^-_{.}\sigma^{\parallel}{}_{\alpha\beta\chi}$
$2^+_{.}\sigma^{\parallel}\,\dagger^{\alpha\beta}$	$\frac{1}{k^2(-2r_{3}. + r_{4}.)}$	0	0
$2^+_{.}\tau^{\parallel}\,\dagger^{\alpha\beta}$	0	0	0
$2^-_{.}\sigma^{\parallel}\,\dagger^{\alpha\beta\chi}$	0	0	0

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
$1^-_{.}\tau^{\perp}{}^{\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau(\Delta+\mathcal{K})^{\alpha\beta}$	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
$1^-_{.}\sigma^{\perp}{}^{\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi} == 0$	3
$1^-_{.}\sigma^{\parallel}{}^{\alpha} == 0$	$\partial_{\delta}\partial^{\alpha}\sigma^{\chi}{}_{\chi}{}^{\delta} + \partial_{\delta}\partial^{\delta}\sigma^{\chi\alpha}{}_{\chi} == \partial_{\delta}\partial_{\chi}\sigma^{\chi\alpha\delta}$	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
$2^-_{.}\sigma^{\parallel}{}^{\alpha\beta\chi} == 0$	$3\,\partial_{\epsilon}\partial_{\delta}\partial^{\chi}\partial^{\alpha}\sigma^{\delta\beta\epsilon} + 3\,\partial_{\epsilon}\partial^{\epsilon}\partial^{\chi}\partial^{\alpha}\sigma^{\delta\beta}{}_{\delta} + 2\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\beta}\sigma^{\alpha\chi\delta} + 4\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\beta}\sigma^{\chi\alpha\delta} + 2\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\beta}\sigma^{\delta\alpha\chi} + 2\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\chi}\sigma^{\beta\alpha\delta} + 4\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\chi}\sigma^{\delta\alpha\beta} + 2\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\sigma^{\alpha\beta\chi} + 3\,\eta^{\beta\chi}\,\partial_{\phi}\partial^{\phi}\partial_{\epsilon}\partial^{\alpha}\sigma^{\delta}{}_{\delta}{}^{\epsilon} + 3\,\eta^{\alpha\chi}\,\partial_{\phi}\partial^{\phi}\partial_{\epsilon}\partial_{\delta}\sigma^{\delta\beta\epsilon} + 3\,\eta^{\beta\chi}\,\partial_{\phi}\partial^{\phi}\partial_{\epsilon}\partial^{\epsilon}\sigma^{\delta\alpha}{}_{\delta} == 3\,\partial_{\epsilon}\partial_{\delta}\partial^{\chi}\partial^{\beta}\sigma^{\delta\alpha\epsilon} + 3\,\partial_{\epsilon}\partial^{\epsilon}\partial^{\chi}\partial^{\beta}\sigma^{\delta\alpha}{}_{\delta} + 2\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\alpha}\sigma^{\beta\chi\delta} + 4\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\alpha}\sigma^{\chi\beta\delta} + 2\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\alpha}\sigma^{\delta\beta\chi} + 2\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\chi}\sigma^{\alpha\beta\delta} + 2\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\sigma^{\beta\alpha\chi} + 4\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\sigma^{\chi\alpha\beta} + 3\,\eta^{\alpha\chi}\,\partial_{\phi}\partial^{\phi}\partial_{\epsilon}\partial^{\beta}\sigma^{\delta}{}_{\delta}{}^{\epsilon} + 3\,\eta^{\beta\chi}\,\partial_{\phi}\partial^{\phi}\partial_{\epsilon}\partial_{\delta}\sigma^{\delta\alpha\epsilon} + 3\,\eta^{\alpha\chi}\,\partial_{\phi}\partial^{\phi}\partial_{\epsilon}\partial^{\epsilon}\sigma^{\delta\beta}{}_{\delta}$	5
$2^+_{.}\tau^{\parallel}{}^{\alpha\beta} == 0$	$4\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\delta} + 2\,\partial_{\delta}\partial^{\delta}\partial^{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi}{}_{\chi} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\alpha\beta} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\beta\alpha} + 2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\tau(\Delta+\mathcal{K})^{\chi\delta} == 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\beta} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha\chi} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\chi\alpha} + 2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\tau(\Delta+\mathcal{K})^{\chi}{}_{\chi}$	5
Total expected gauge generators:			27

Massive spectrum



Massive particle

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

Massless spectrum

(No particles)

Unitarity conditions

$r_{2}. < 0 \;\&\&\; t_{2}. > 0$