PSALTer results panel

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

Wave operator

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

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

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

Saturated propagator

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

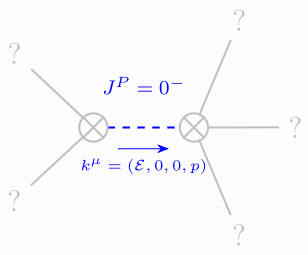
	$1^+_{\cdot}\sigma^{\parallel}{}_{\alpha\beta}$	$1^+_{\cdot}\sigma^{\perp}{}_{\alpha\beta}$	$1^+_{\cdot}\tau^{\parallel}{}_{\alpha\beta}$	$1^-_{\cdot}\sigma^{\parallel}{}_{\alpha}$	$1^-_{\cdot}\sigma^{\perp}{}_{\alpha}$	$1^-_{\cdot}\tau^{\parallel}{}_{\alpha}$	$1^-_{\cdot}\tau^{\perp}{}_{\alpha}$
$1^+_{\cdot}\sigma^{\parallel}\,\dagger^{\alpha\beta}$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

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

Source constraints

Spin-parity form	Covariant form	Multiplicities
$0^+_{\cdot}\tau^{\perp} == 0$	$\partial_{\beta}\partial_{\alpha}\tau\,(\Delta+\mathcal{K})^{\alpha\beta} == 0$	1
$0^+_{\cdot}\tau^{\parallel} == 0$	$\partial_{\beta}\partial_{\alpha}\tau\,(\Delta+\mathcal{K})^{\alpha\beta} == \partial_{\beta}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\alpha}{}_{\alpha}$	1
$1^-_{\cdot}\tau^{\perp\,\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\beta\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau\,(\Delta+\mathcal{K})^{\alpha\beta}$	3
$1^-_{\cdot}\tau^{\parallel\,\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\beta\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau\,(\Delta+\mathcal{K})^{\beta\alpha}$	3
$1^-_{\cdot}\sigma^{\perp\,\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi} == 0$	3
$1^-_{\cdot}\sigma^{\parallel\,\alpha} == 0$	$\partial_{\delta}\partial^{\alpha}\sigma^{\chi}{}_{\chi}{}^{\delta} + \partial_{\delta}\partial^{\delta}\sigma^{\chi\alpha}{}_{\chi} == \partial_{\delta}\partial_{\chi}\sigma^{\chi\alpha\delta}$	3
$i\,k\ 1^+_{\cdot}\sigma^{\perp\,\alpha\beta} + 1^+_{\cdot}\tau^{\parallel\,\alpha\beta} == 0$	$\partial_{\chi}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\beta\chi} + \partial_{\chi}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\chi\alpha} + \partial_{\chi}\partial^{\chi}\tau\,(\Delta+\mathcal{K})^{\alpha\beta} + 2\,\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta} + 2\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\chi\alpha\beta} == \partial_{\chi}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\chi\beta} + \partial_{\chi}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\alpha\chi} + \partial_{\chi}\partial^{\chi}\tau\,(\Delta+\mathcal{K})^{\beta\alpha} + 2\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta}$	3
$2^-_{\cdot}\sigma^{\parallel\,\alpha\beta\chi} == 0$	$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^{\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
$2^+_{\cdot}\tau^{\parallel\,\alpha\beta} == 0$	$4\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\chi\delta} + 2\,\partial_{\delta}\partial^{\delta}\partial^{\beta}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\chi}{}_{\chi} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau\,(\Delta+\mathcal{K})^{\alpha\beta} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\alpha\chi} + 2\ \eta^{\alpha\beta}\ \partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\tau\,(\Delta+\mathcal{K})^{\chi\delta} == 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\beta\chi} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\chi\beta} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\alpha\chi} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\chi\alpha} + 2\ \eta^{\alpha\beta}\ \partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\tau\,(\Delta+\mathcal{K})^{\chi}{}_{\chi}$	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

(There are no massless particles)

Gauge symmetries

(Not yet implemented in PSALTer)

Unitarity conditions

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

Validity assumptions

(Not yet implemented in PSALTer)