PSALTer results panel

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

Wave operator

	$\overset{0^+}{\cdot}\mathcal{A}^{\parallel}$	$\overset{0^+}{\cdot}f^{\parallel}$	$\overset{0^+}{\cdot}f^{\perp}$	$\overset{0^-}{\cdot}\mathcal{A}^{\parallel}$
$\overset{0^+}{\cdot}\mathcal{A}^{\parallel}\,\dagger$	$t_{.3}$	$-i\sqrt{2}\,k\,t_{.3}$	0	0
$\overset{0^+}{\cdot}f^{\parallel}\,\dagger$	$i\sqrt{2}\,k\,t_{.3}$	$2\,k^2\,t_{.3}$	0	0
$\overset{0^+}{\cdot}f^{\perp}\,\dagger$	0	0	0	0
$\overset{0^-}{\cdot}\mathcal{A}^{\parallel}\,\dagger$	0	0	0	$k^2\,r_{.2}+t_{.2}$

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

	$\overset{2^+}{\cdot}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$\overset{2^+}{\cdot}f^{\parallel}{}_{\alpha\beta}$	$\overset{2^-}{\cdot}\mathcal{A}^{\parallel}{}_{\alpha\beta\chi}$
$\overset{2^+}{\cdot}\mathcal{A}^{\parallel}\,\dagger^{\alpha\beta}$	0	0	0
$\overset{2^+}{\cdot}f^{\parallel}\,\dagger^{\alpha\beta}$	0	0	0
$\overset{2^-}{\cdot}\mathcal{A}^{\parallel}\,\dagger^{\alpha\beta\chi}$	0	0	0

Saturated propagator

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

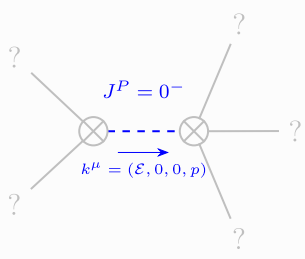
	$\overset{1^+}{\cdot}\sigma^{\parallel}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\sigma^{\perp}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\tau^{\parallel}{}_{\alpha\beta}$	$\overset{1^-}{\cdot}\sigma^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}\sigma^{\perp}{}_{\alpha}$	$\overset{1^-}{\cdot}\tau^{\parallel}{}_{\alpha}$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

	$\overset{2^+}{\cdot}\sigma^{\parallel}{}_{\alpha\beta}$	$\overset{2^+}{\cdot}\tau^{\parallel}{}_{\alpha\beta}$	$\overset{2^-}{\cdot}\sigma^{\parallel}{}_{\alpha\beta\chi}$
$\overset{2^+}{\cdot}\sigma^{\parallel}\,\dagger^{\alpha\beta}$	0	0	0
$\overset{2^+}{\cdot}\tau^{\parallel}\,\dagger^{\alpha\beta}$	0	0	0
$\overset{2^-}{\cdot}\sigma^{\parallel}\,\dagger^{\alpha\beta\chi}$	0	0	0

Source constraints

Spin-parity form	Covariant form	Multiplicities
$\overset{0^+}{\cdot}\tau^{\perp} == 0$	$\partial_{\beta}\partial_{\alpha}\tau\,(\Delta+\mathcal{K})^{\alpha\beta} == 0$	1
$-2\,i\,k\,\overset{0^+}{\cdot}\sigma^{\parallel}+\overset{0^+}{\cdot}\tau^{\parallel} == 0$	$\partial_{\beta}\partial_{\alpha}\tau\,(\Delta+\mathcal{K})^{\alpha\beta} == \partial_{\beta}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\alpha}{}_{\alpha}+2\,\partial_{\chi}\partial^{\chi}\partial_{\beta}\sigma^{\alpha\ \beta}{}_{\alpha}$	1
$-i\,k\,\overset{1^-}{\cdot}\sigma^{\parallel\,\alpha}+\overset{1^-}{\cdot}\tau^{\perp\,\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\beta\chi}+\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau\,(\Delta+\mathcal{K})^{\alpha\beta}+\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\beta\ \chi}{}_{\beta}+\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\sigma^{\beta\alpha}{}_{\beta}$	3
$\overset{1^-}{\cdot}\tau^{\parallel\,\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\beta\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau\,(\Delta+\mathcal{K})^{\beta\alpha}$	3
$\overset{1^-}{\cdot}\sigma^{\parallel\,\alpha}+2\,\overset{1^-}{\cdot}\sigma^{\perp\,\alpha} == 0$	$\partial_{\chi}\partial^{\alpha}\sigma^{\beta\ \chi}{}_{\beta}+\partial_{\chi}\partial^{\chi}\sigma^{\beta\alpha}{}_{\beta} == 3\,\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi}$	3
$i\,k\,\overset{1^+}{\cdot}\sigma^{\parallel\,\alpha\beta}+\overset{1^+}{\cdot}\tau^{\alpha\beta} == 0$	$\partial_{\chi}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\beta\chi}+\partial_{\chi}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\chi\alpha}+\partial_{\chi}\partial^{\chi}\tau\,(\Delta+\mathcal{K})^{\alpha\beta}+\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta}+\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\alpha\beta\chi} == \partial_{\chi}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\chi\beta}+\partial_{\chi}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\alpha\chi}+\partial_{\chi}\partial^{\chi}\tau\,(\Delta+\mathcal{K})^{\beta\alpha}+\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta}+\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\beta\alpha\chi}$	3
$\overset{1^+}{\cdot}\sigma^{\parallel\,\alpha\beta} == \overset{1^+}{\cdot}\sigma^{\perp\,\alpha\beta}$	$3\,\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta}+\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\beta\alpha\chi}+2\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\chi\alpha\beta} == 3\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta}+\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\alpha\beta\chi}$	3
$\overset{2^-}{\cdot}\sigma^{\parallel\,\alpha\beta\chi} == 0$	$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\ \epsilon}_{\ \delta}+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^{\delta}\sigma^{\beta\chi\alpha}+2\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\sigma^{\chi\alpha\beta}+2\,\partial_{\epsilon}\partial^{\epsilon}\partial^{\chi}\partial^{\beta}\sigma^{\delta\alpha}{}_{\delta}+2\,\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\ \epsilon}_{\ \delta}+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
$\overset{2^+}{\cdot}\tau^{\parallel\,\alpha\beta} == 0$	$4\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\chi\delta}+2\,\partial_{\delta}\partial^{\delta}\partial^{\beta}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\chi}{}_{\chi}+3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau\,(\Delta+\mathcal{K})^{\alpha\beta}+3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau\,(\Delta+\mathcal{K})^{\beta\alpha}+2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\tau\,(\Delta+\mathcal{K})^{\chi\delta} == 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\beta\chi}+3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau\,(\Delta+\mathcal{K})^{\alpha\beta}+3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\chi\alpha}+2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\tau\,(\Delta+\mathcal{K})^{\chi}{}_{\chi}$	5
$\overset{2^+}{\cdot}\sigma^{\parallel\,\alpha\beta} == 0$	$3\,\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta}+3\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta}+2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\sigma^{\chi\ \delta}_{\ \chi} == 2\,\partial_{\delta}\partial^{\beta}\partial^{\alpha}\sigma^{\chi\ \delta}_{\ \chi}+3\left(\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\alpha\beta\chi}+\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\beta\alpha\chi}\right)$	5
Total expected gauge generators:			32

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)