PSALTer results panel

$$S == \iiiint \left(\frac{1}{6}\left(2\left(t_{1}. - 2\,t_{3}.\right)\mathcal{A}^{\alpha\prime}{}_{\alpha}{}_{\prime}{}^{\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_{\prime}f^{\alpha\prime} + 8\,t_{3}.\,\mathcal{A}_{\alpha}{}^{\theta}{}_{\theta}\,\partial_{\prime}f^{\alpha\prime} + 4\,t_{1}.\,\mathcal{A}_{\prime}{}^{\theta}{}_{\theta}\,\partial^{\prime}f^{\alpha}{}_{\alpha} - 8\,t_{3}.\,\mathcal{A}_{\prime}{}^{\theta}{}_{\theta}\,\partial^{\prime}f^{\alpha}{}_{\alpha} - 2\,t_{1}.\,\partial_{\prime}f^{\theta}{}_{\theta}\,\partial^{\prime}f^{\alpha}{}_{\alpha} + 4\,t_{3}.\,\partial_{\prime}f^{\theta}{}_{\theta}\,\partial^{\prime}f^{\alpha}{}_{\alpha} - 2\,t_{1}.\,\partial_{\prime}f^{\alpha\prime}\,\partial_{\theta}f_{\alpha}{}^{\theta} + 4\,t_{3}.\,\partial_{\prime}f^{\alpha\prime}\,\partial_{\theta}f_{\alpha}{}^{\theta} + 4\,t_{1}.\,\partial^{\prime}f^{\alpha}{}_{\alpha}\,\partial_{\theta}f_{\prime}{}^{\theta} - 8\,t_{3}.\,\partial^{\prime}f^{\alpha}{}_{\alpha}\,\partial_{\theta}f_{\prime}{}^{\theta} + 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} - 6\,t_{1}.\,\partial_{\alpha}f_{\prime\theta}\,\partial^{\theta}f^{\alpha\prime} - 3\,t_{1}.\,\partial_{\alpha}f_{\theta\prime}\,\partial^{\theta}f^{\alpha\prime} + 3\,t_{1}.\,\partial_{\prime}f_{\alpha\theta}\,\partial^{\theta}f^{\alpha\prime} + 3\,t_{1}.\,\partial_{\theta}f_{\alpha\prime}\,\partial^{\theta}f^{\alpha\prime} + 3\,t_{1}.\,\partial_{\theta}f_{\prime\alpha}\,\partial^{\theta}f^{\alpha\prime} + 6\,t_{1}.\,\mathcal{A}_{\alpha\theta\prime}\left(\mathcal{A}^{\alpha\prime\theta} + 2\,\partial^{\theta}f^{\alpha\prime}\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	$k^2\,r_{2}. - t_{1}.$

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

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

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	$\frac{1}{k^2\,r_{2}. - t_{1}.}$

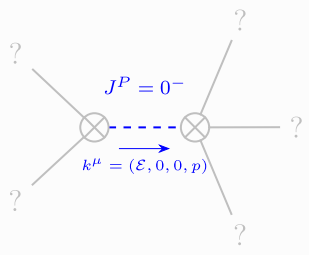
	$\overset{1^+}{\cdot}\sigma^{\parallel}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\sigma^{\perp}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\tau^{\parallel}{}_{\alpha\beta}$	$\overset{1^-}{\cdot}\sigma^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}\sigma^{\perp}{}_{\alpha}$	$\overset{1^-}{\cdot}\tau^{\parallel}{}_{\alpha}$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

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

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
$-2\,i\,k\,\overset{0^+}{\cdot}\sigma^{\parallel} + \overset{0^+}{\cdot}\tau^{\parallel} == 0$	$\partial_{\beta}\partial_{\alpha\tau}(\Delta+\mathcal{K})^{\alpha\beta} == \partial_{\beta}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha}{}_{\alpha} + 2\,\partial_{\chi}\partial^{\chi}\partial_{\beta}\sigma^{\alpha}{}_{\alpha}{}^{\beta}$	1
$2\,i\,k\,\overset{1^-}{\cdot}\sigma^{\perp}{}^{\alpha} + \overset{1^-}{\cdot}\tau^{\perp}{}^{\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau(\Delta+\mathcal{K})^{\alpha\beta} + 2\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi}$	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
$i\,k\,\overset{1^+}{\cdot}\sigma^{\perp}{}^{\alpha\beta} + \overset{1^+}{\cdot}\tau^{\parallel}{}^{\alpha\beta} == 0$	$\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} + \partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\chi\alpha} + \partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\alpha\beta} + 2\,\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta} + 2\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\chi\alpha\beta} == \partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\beta} + \partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha\chi} + \partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\beta\alpha} + 2\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta}$	3
$-2\,i\,k\,\overset{2^+}{\cdot}\sigma^{\parallel}{}^{\alpha\beta} + \overset{2^+}{\cdot}\tau^{\parallel}{}^{\alpha\beta} == 0$	$-i\left(4\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\delta} + 2\,\partial_{\delta}\partial^{\delta}\partial^{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi}{}_{\chi} - 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} - 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\beta} - 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha\chi} - 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\chi\alpha} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\alpha\beta} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\beta\alpha} + 4\,i\,k^{\chi}\,\partial_{\epsilon}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\sigma^{\delta}{}_{\delta}{}^{\epsilon} - 6\,i\,k^{\chi}\,\partial_{\epsilon}\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\delta\beta\epsilon} - 6\,i\,k^{\chi}\,\partial_{\epsilon}\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\delta\alpha\epsilon} + 6\,i\,k^{\chi}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\sigma^{\alpha\beta\delta} + 6\,i\,k^{\chi}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\sigma^{\beta\alpha\delta} + 2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\tau(\Delta+\mathcal{K})^{\chi\delta} - 2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\tau(\Delta+\mathcal{K})^{\chi}{}_{\chi} - 4\,i\,\eta^{\alpha\beta}\,k^{\chi}\,\partial_{\phi}\partial^{\phi}\partial_{\epsilon}\partial_{\chi}\sigma^{\delta}{}_{\delta}{}^{\epsilon}\right) == 0$	5
Total expected gauge generators:		16

Massive spectrum



Massive particle

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

Massless spectrum

(There are no massless particles)

Gauge symmetries

(Not yet implemented in PSALTer)

Unitarity conditions

$r_{2}. < 0 \;\&\&\; t_{1}. < 0$

Validity assumptions

(Not yet implemented in PSALTer)