PSALTer results panel

$$S == \iiiint\Big(\mathcal{A}^{\alpha\beta\chi}\ \sigma_{\alpha\beta\chi} + f^{\alpha\beta}\ \tau\,(\Delta+\mathcal{K})_{\alpha\beta} - 4\,r_{\cdot 3}\Big(\partial_\beta \mathcal{A}_{,\theta}{}^{\theta}\,\partial^\prime \mathcal{A}^{\alpha\beta}{}_{\alpha} + \partial_\alpha \mathcal{A}^{\alpha\beta\prime}\,\partial_\theta \mathcal{A}_{,\theta}{}^{\theta}{}_{\beta} - 2\,\partial^\prime \mathcal{A}^{\alpha\beta}{}_{\alpha}\,\partial_\theta \mathcal{A}_{,\theta}{}^{\theta}{}_{\beta} + \partial_\beta \mathcal{A}_{,\theta\alpha}\,\partial^\theta \mathcal{A}^{\alpha\beta\prime}\Big) + \frac{1}{3}\,r_{\cdot 1}\Big(9\,\partial_\beta \mathcal{A}_{,\theta}{}^{\theta}\,\partial^\prime \mathcal{A}^{\alpha\beta}{}_{\alpha} + 3\,\partial_\prime \mathcal{A}_{\beta}{}^{\theta}{}_{\theta}\,\partial^\prime \mathcal{A}^{\alpha\beta}{}_{\alpha} + 3\,\partial_\alpha \mathcal{A}^{\alpha\beta\prime}\,\partial_\theta \mathcal{A}_{\beta}{}^{\theta}{}_{,} - 6\,\partial^\prime \mathcal{A}^{\alpha\beta}{}_{\alpha}\,\partial_\theta \mathcal{A}_{\beta}{}^{\theta}{}_{,} + 9\,\partial_\alpha \mathcal{A}^{\alpha\beta\prime}\,\partial_\theta \mathcal{A}_{,}{}^{\theta}{}_{\beta} - 18\,\partial^\prime \mathcal{A}^{\alpha\beta}{}_{\alpha}\,\partial_\theta \mathcal{A}_{,}{}^{\theta}{}_{\beta} - 4\,\partial_\beta \mathcal{A}_{\alpha\prime\theta}\,\partial^\theta \mathcal{A}^{\alpha\beta\prime} + 2\,\partial_\beta \mathcal{A}_{\alpha\theta\prime}\,\partial^\theta \mathcal{A}^{\alpha\beta\prime} + 4\,\partial_\beta \mathcal{A}_{,\theta\alpha}\,\partial^\theta \mathcal{A}^{\alpha\beta\prime} - 2\,\partial_\prime \mathcal{A}_{\alpha\beta\theta}\,\partial^\theta \mathcal{A}^{\alpha\beta\prime} + 2\,\partial_\theta \mathcal{A}_{\alpha\beta\prime}\,\partial^\theta \mathcal{A}^{\alpha\beta\prime} + 2\,\partial_\theta \mathcal{A}_{\alpha\prime\beta}\,\partial^\theta \mathcal{A}^{\alpha\beta\prime}\Big) + \frac{1}{6}\,t_{\cdot 1}\Big(2\,\mathcal{A}^{\alpha\prime}{}_{\alpha}\,\mathcal{A}_{,}{}^{\theta}{}_{\theta} - 4\,\mathcal{A}_{\alpha}{}^{\theta}{}_{\theta}\,\partial_\prime f^{\alpha\prime} + 4\,\mathcal{A}_{,}{}^{\theta}{}_{\theta}\,\partial^\prime f^{\alpha}{}_{\alpha} - 2\,\partial_\prime f^{\theta}{}_{\theta}\,\partial^\prime f^{\alpha}{}_{\alpha} - 2\,\partial_\prime f^{\alpha\prime}\,\partial_\theta f_{\alpha}{}^{\theta}{}_{,} + 4\,\partial^\prime f^{\alpha}{}_{\alpha}\,\partial_\theta f_{,}{}^{\theta}{}_{,} - 6\,\partial_\alpha f_{,\theta}\,\partial^\theta f^{\alpha\prime} - 3\,\partial_\alpha f_{\theta\prime}\,\partial^\theta f^{\alpha\prime} + 3\,\partial_\prime f_{\alpha\theta}\,\partial^\theta f^{\alpha\prime} + 3\,\partial_\theta f_{\alpha\prime}\,\partial^\theta f^{\alpha\prime} + 3\,\partial_\theta f_{\prime\alpha}\,\partial^\theta f^{\alpha\prime} + 6\,\mathcal{A}_{\alpha\theta\prime}\,\left(\mathcal{A}^{\alpha\prime\theta} + 2\,\partial^\theta f^{\alpha\prime}\right)\Big)\Big][t, x, y, z]\,dt\,dx\,dy\,dz$$

Wave operator

	$\overset{0^+}{\cdot}\mathcal{A}^{\parallel}$	$\overset{0^+}{\cdot}f^{\parallel}$	$\overset{0^+}{\cdot}f^{\perp}$	$\overset{0^-}{\cdot}\mathcal{A}^{\parallel}$
$\overset{0^+}{\cdot}\mathcal{A}^{\parallel\,\dagger}$	$6\,k^2\left(-r_{\cdot 1}+r_{\cdot 3}\right)$	0	0	0
$\overset{0^+}{\cdot}f^{\parallel\,\dagger}$	0	0	0	0
$\overset{0^+}{\cdot}f^{\perp\,\dagger}$	0	0	0	0
$\overset{0^-}{\cdot}\mathcal{A}^{\parallel\,\dagger}$	0	0	0	$-t_{\cdot 1}$

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

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

Saturated propagator

	$\overset{0^+}{\cdot}\sigma^{\parallel}$	$\overset{0^+}{\cdot}\tau^{\parallel}$	$\overset{0^+}{\cdot}\tau^{\perp}$	$\overset{0^-}{\cdot}\sigma^{\parallel}$
$\overset{0^+}{\cdot}\sigma^{\parallel\,\dagger}$	$\frac{1}{6\,k^2\left(-r_{\cdot 1}+r_{\cdot 3}\right)}$	0	0	0
$\overset{0^+}{\cdot}\tau^{\parallel\,\dagger}$	0	0	0	0
$\overset{0^+}{\cdot}\tau^{\perp\,\dagger}$	0	0	0	0
$\overset{0^-}{\cdot}\sigma^{\parallel\,\dagger}$	0	0	0	$-\frac{1}{t_{\cdot 1}}$

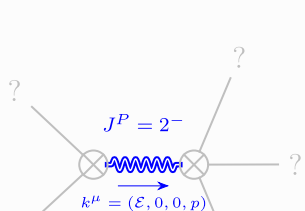
	$\overset{1^+}{\cdot}\sigma^{\parallel}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\sigma^{\perp}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\tau^{\parallel}{}_{\alpha\beta}$	$\overset{1^-}{\cdot}\sigma^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}\sigma^{\perp}{}_{\alpha}$	$\overset{1^-}{\cdot}\tau^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}\tau^{\perp}{}_{\alpha}$
$\overset{1^+}{\cdot}\sigma^{\parallel\,\dagger\,\alpha\beta}$	0	$-\frac{\sqrt{2}}{t_{\cdot 1}+k^2 t_{\cdot 1}}$	$-\frac{i\,\sqrt{2}\,k}{t_{\cdot 1}+k^2 t_{\cdot 1}}$	0	0	0	0
$\overset{1^+}{\cdot}\sigma^{\perp\,\dagger\,\alpha\beta}$	$-\frac{\sqrt{2}}{t_{\cdot 1}+k^2 t_{\cdot 1}}$	$\frac{-2\,k^2 r_{\cdot 1}+t_{\cdot 1}}{(1+k^2)^2\,t_{\cdot 1}{}^2}$	$-\frac{i\left(2\,k^3 r_{\cdot 1}-k\,t_{\cdot 1}\right)}{(1+k^2)^2\,t_{\cdot 1}{}^2}$	0	0	0	0
$\overset{1^+}{\cdot}\tau^{\parallel\,\dagger\,\alpha\beta}$	$\frac{i\,\sqrt{2}\,k}{t_{\cdot 1}+k^2 t_{\cdot 1}}$	$\frac{i\left(2\,k^3 r_{\cdot 1}-k\,t_{\cdot 1}\right)}{(1+k^2)^2\,t_{\cdot 1}{}^2}$	$\frac{-2\,k^4 r_{\cdot 1}+k^2 t_{\cdot 1}}{(1+k^2)^2\,t_{\cdot 1}{}^2}$	0	0	0	0
$\overset{1^-}{\cdot}\sigma^{\parallel\,\dagger\,\alpha}$	0	0	0	$\frac{6}{\left(3+4\,k^2\right)^2 t_{\cdot 1}}$	$\frac{6\,\sqrt{2}}{\left(3+4\,k^2\right)^2 t_{\cdot 1}}$	0	$\frac{12\,i\,k}{\left(3+4\,k^2\right)^2 t_{\cdot 1}}$
$\overset{1^-}{\cdot}\sigma^{\perp\,\dagger\,\alpha}$	0	0	0	$\frac{6\,\sqrt{2}}{\left(3+4\,k^2\right)^2 t_{\cdot 1}}$	$\frac{12}{\left(3+4\,k^2\right)^2 t_{\cdot 1}}$	0	$\frac{12\,i\,\sqrt{2}\,k}{\left(3+4\,k^2\right)^2 t_{\cdot 1}}$
$\overset{1^-}{\cdot}\tau^{\parallel\,\dagger\,\alpha}$	0	0	0	0	0	0	0
$\overset{1^-}{\cdot}\tau^{\perp\,\dagger\,\alpha}$	0	0	0	$-\frac{12\,i\,k}{\left(3+4\,k^2\right)^2 t_{\cdot 1}}$	$-\frac{12\,i\,\sqrt{2}\,k}{\left(3+4\,k^2\right)^2 t_{\cdot 1}}$	0	$\frac{24\,k^2}{\left(3+4\,k^2\right)^2 t_{\cdot 1}}$

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

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
$\overset{0^+}{\cdot}\tau^{\parallel} == 0$	$\partial_\beta\partial_\alpha\tau\,(\Delta+\mathcal{K})^{\alpha\beta} == \partial_\beta\partial^\beta\tau\,(\Delta+\mathcal{K})^{\alpha}{}_{\alpha}$	1
$2\,i\,k\ \overset{1^-}{\cdot}\sigma^{\parallel\,\alpha} + \overset{1^-}{\cdot}\tau^{\perp\,\alpha} == 0$	$\partial_\chi\partial_\beta\partial^\alpha\tau\,(\Delta+\mathcal{K})^{\beta\chi} + 2\left(\partial_\delta\partial^\delta\partial_\chi\partial^\alpha\sigma^{\beta}{}_{\beta}{}^{\chi} - \partial_\delta\partial^\delta\partial_\chi\partial_\beta\sigma^{\beta\alpha\chi} + \partial_\delta\partial^\delta\partial_\chi\partial^\chi\sigma^{\beta\alpha}{}_{\beta}\right) == \partial_\chi\partial^\chi\partial_\beta\tau\,(\Delta+\mathcal{K})^{\alpha\beta}$	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
$\overset{1^-}{\cdot}\sigma^{\parallel\,\alpha} == \overset{1^-}{\cdot}\sigma^{\perp\,\alpha}$	$\partial_\chi\partial^\alpha\sigma^{\beta}{}_{\beta}{}^{\chi} + \partial_\chi\partial^\chi\sigma^{\beta\alpha}{}_{\beta} == 0$	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
$-2\,i\,k\ \overset{2^+}{\cdot}\sigma^{\parallel\,\alpha\beta} + \overset{2^+}{\cdot}\tau^{\parallel\,\alpha\beta} == 0$	$-i\Big(4\,\partial_\delta\partial_\chi\partial^\beta\partial^\alpha\tau\,(\Delta+\mathcal{K})^{\chi\delta} + 2\,\partial_\delta\partial^\delta\partial^\beta\partial^\alpha\tau\,(\Delta+\mathcal{K})^{\chi}{}_{\chi} - 3\,\partial_\delta\partial^\delta\partial_\chi\partial^\alpha\tau\,(\Delta+\mathcal{K})^{\beta\chi} - 3\,\partial_\delta\partial^\delta\partial_\chi\partial^\beta\tau\,(\Delta+\mathcal{K})^{\chi\alpha} - 3\,\partial_\delta\partial^\delta\partial_\chi\partial^\chi\tau\,(\Delta+\mathcal{K})^{\alpha\beta} + 3\,\partial_\delta\partial^\delta\partial_\chi\partial^\chi\tau\,(\Delta+\mathcal{K})^{\beta\alpha} + 4\,i\,k^\chi\,\partial_\epsilon\partial_\chi\partial^\beta\partial^\alpha\sigma^{\delta}{}_{\delta}{}^{\epsilon} - 6\,i\,k^\chi\,\partial_\epsilon\partial_\delta\partial_\chi\partial^\alpha\sigma^{\delta\beta\epsilon} - 6\,i\,k^\chi\,\partial_\epsilon\partial_\delta\partial_\chi\partial^\beta\sigma^{\delta\alpha\epsilon} + 6\,i\,k^\chi\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial_\chi\sigma^{\alpha\beta\delta} + 6\,i\,k^\chi\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial_\chi\sigma^{\beta\alpha\delta} + 2\,\eta^{\alpha\beta}\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial_\chi\tau\,(\Delta+\mathcal{K})^{\chi\delta} - 2\,\eta^{\alpha\beta}\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\delta\tau\,(\Delta+\mathcal{K})^{\chi}{}_{\chi} - 4\,i\,\eta^{\alpha\beta}\,k^\chi\,\partial_\phi\partial^\phi\partial_\epsilon\partial_\chi\sigma^{\delta}{}_{\delta}{}^{\epsilon}\Big) == 0$	5
Total expected gauge generators:		19

Massive spectrum



Massive particle

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

Massless spectrum

(There are no massless particles)

Gauge symmetries

(Not yet implemented in PSALTer)

Unitarity conditions

$r_{\cdot 1} < 0\ \&\&\ t_{\cdot 1} > 0$

Validity assumptions

(Not yet implemented in PSALTer)