PSALTer results panel

$$\mathcal{S} == \iiiint\Big(\mathcal{A}^{\alpha\beta\chi}\ \sigma_{\alpha\beta\chi} + f^{\alpha\beta}\ \tau\,(\Delta+\mathcal{K})_{\alpha\beta} + \frac{1}{3}\,r_{\cdot 2}\Big(4\,\partial_\beta\mathcal{A}_{\alpha\,\prime\theta} - 2\,\partial_\beta\mathcal{A}_{\alpha\theta\,\prime} + 2\,\partial_\beta\mathcal{A}_{\prime\theta\alpha} - \partial_\prime\mathcal{A}_{\alpha\beta\theta} + \partial_\theta\mathcal{A}_{\alpha\beta\,\prime} - 2\,\partial_\theta\mathcal{A}_{\alpha\,\prime\beta}\Big)\,\partial^\theta\mathcal{A}^{\alpha\beta\,\prime} + \frac{1}{2}\,t_{\cdot 1}\Big(2\ \mathcal{A}^{\alpha\,\prime}{}_{\alpha}\ \mathcal{A}_{\prime}{}^{\theta}{}_{\theta} - 4\ \mathcal{A}_{\alpha}{}^{\theta}{}_{\theta}\ \partial_\prime f^{\alpha\,\prime} + 4\ \mathcal{A}_{\prime}{}^{\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_{\prime}{}^{\theta} - 2\,\partial_\alpha f_{\prime\,\theta}\ \partial^\theta f^{\alpha\,\prime} - \partial_\alpha f_{\theta\,\prime}\ \partial^\theta f^{\alpha\,\prime} + \partial_\prime f_{\alpha\theta}\ \partial^\theta f^{\alpha\,\prime} + \partial_\theta f_{\alpha\,\prime}\ \partial^\theta f^{\alpha\,\prime} + \partial_\theta f_{\prime\,\alpha}\ \partial^\theta f^{\alpha\,\prime} + 2\ \mathcal{A}_{\alpha\theta\,\prime}\ \big(\mathcal{A}^{\alpha\,\prime\,\theta} + 2\,\partial^\theta f^{\alpha\,\prime}\big)\Big) + r_{\cdot 5}\Big(\partial_\prime\mathcal{A}_{\theta}{}^{\kappa}{}_{\kappa}\,\partial^\theta\mathcal{A}^{\alpha\,\prime}{}_{\alpha} - \partial_\theta\mathcal{A}_{\prime}{}^{\kappa}{}_{\kappa}\,\partial^\theta\mathcal{A}^{\alpha\,\prime}{}_{\alpha} - \Big(\partial_\alpha\mathcal{A}^{\alpha\,\prime\,\theta} - 2\,\partial^\theta\mathcal{A}^{\alpha\,\prime}{}_{\alpha}\Big)\Big(\partial_\kappa\mathcal{A}_{\prime}{}^{\kappa}{}_{\theta} - \partial_\kappa\mathcal{A}_{\theta}{}^{\kappa}{}_{\prime}\Big)\Big)\Big)[t, x, y, z]\,dz\,dy\,dx\,dt$$

Wave operator

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

	$\overset{1^+}{\cdot}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\mathcal{A}^{\perp}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}f^{\parallel}{}_{\alpha\beta}$	$\overset{1^-}{\cdot}\mathcal{A}^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}\mathcal{A}^{\perp}{}_{\alpha}$	$\overset{1^-}{\cdot}f^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}f^{\perp}{}_{\alpha}$
$\overset{1^+}{\cdot}\mathcal{A}^{\parallel}\,\dagger^{\alpha\beta}$	$k^2\,r_{\cdot 5} - \frac{t_{\cdot 1}}{2}$	$-\frac{t_{\cdot 1}}{\sqrt{2}}$	$-\frac{ikt_{\cdot 1}}{\sqrt{2}}$	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
$\overset{1^+}{\cdot}f^{\parallel}\,\dagger^{\alpha\beta}$	$\frac{ikt_{\cdot 1}}{\sqrt{2}}$	0	0	0	0	0	0
$\overset{1^-}{\cdot}\mathcal{A}^{\parallel}\,\dagger^{\alpha}$	0	0	0	$k^2\,r_{\cdot 5} - \frac{t_{\cdot 1}}{2}$	$\frac{t_{\cdot 1}}{\sqrt{2}}$	0	$ikt_{\cdot 1}$
$\overset{1^-}{\cdot}\mathcal{A}^{\perp}\,\dagger^{\alpha}$	0	0	0	$\frac{t_{\cdot 1}}{\sqrt{2}}$	0	0	0
$\overset{1^-}{\cdot}f^{\parallel}\,\dagger^{\alpha}$	0	0	0	0	0	0	0
$\overset{1^-}{\cdot}f^{\perp}\,\dagger^{\alpha}$	0	0	0	$-ikt_{\cdot 1}$	0	0	0

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

Saturated propagator

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

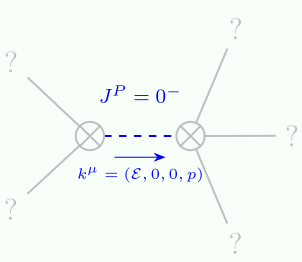
	$\overset{1^+}{\cdot}\sigma^{\parallel}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\sigma^{\perp}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\tau^{\parallel}{}_{\alpha\beta}$	$\overset{1^-}{\cdot}\sigma^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}\sigma^{\perp}{}_{\alpha}$	$\overset{1^-}{\cdot}\tau^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}\tau^{\perp}{}_{\alpha}$
$\overset{1^+}{\cdot}\sigma^{\parallel}\,\dagger^{\alpha\beta}$	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
$\overset{1^+}{\cdot}\sigma^{\perp}\,\dagger^{\alpha\beta}$	$-\frac{\sqrt{2}}{t_{\cdot 1}+k^2\,t_{\cdot 1}}$	$\frac{-2k^2\,r_{\cdot 5}+t_{\cdot 1}}{(1+k^2)^2\,t_{\cdot 1}^{\,2}}$	$-\frac{i\left(2k^3\,r_{\cdot 5}-k\,t_{\cdot 1}\right)}{(1+k^2)^2\,t_{\cdot 1}^{\,2}}$	0	0	0	0
$\overset{1^+}{\cdot}\tau^{\parallel}\,\dagger^{\alpha\beta}$	$\frac{i\sqrt{2}\,k}{t_{\cdot 1}+k^2\,t_{\cdot 1}}$	$\frac{i\left(2k^3\,r_{\cdot 5}-k\,t_{\cdot 1}\right)}{(1+k^2)^2\,t_{\cdot 1}^{\,2}}$	$\frac{-2k^4\,r_{\cdot 5}+k^2\,t_{\cdot 1}}{(1+k^2)^2\,t_{\cdot 1}^{\,2}}$	0	0	0	0
$\overset{1^-}{\cdot}\sigma^{\parallel}\,\dagger^{\alpha}$	0	0	0	0	$\frac{\sqrt{2}}{t_{\cdot 1}+2k^2\,t_{\cdot 1}}$	0	$\frac{2ik}{t_{\cdot 1}+2k^2\,t_{\cdot 1}}$
$\overset{1^-}{\cdot}\sigma^{\perp}\,\dagger^{\alpha}$	0	0	0	$\frac{\sqrt{2}}{t_{\cdot 1}+2k^2\,t_{\cdot 1}}$	$\frac{-2k^2\,r_{\cdot 5}+t_{\cdot 1}}{\left(t_{\cdot 1}+2k^2\,t_{\cdot 1}\right)^2}$	0	$-\frac{i\sqrt{2}\,k\left(2k^2\,r_{\cdot 5}-t_{\cdot 1}\right)}{\left(t_{\cdot 1}+2k^2\,t_{\cdot 1}\right)^2}$
$\overset{1^-}{\cdot}\tau^{\parallel}\,\dagger^{\alpha}$	0	0	0	0	0	0	0
$\overset{1^-}{\cdot}\tau^{\perp}\,\dagger^{\alpha}$	0	0	0	$-\frac{2ik}{t_{\cdot 1}+2k^2\,t_{\cdot 1}}$	$\frac{i\sqrt{2}\,k\left(2k^2\,r_{\cdot 5}-t_{\cdot 1}\right)}{\left(t_{\cdot 1}+2k^2\,t_{\cdot 1}\right)^2}$	0	$\frac{-4k^4\,r_{\cdot 5}+2k^2\,t_{\cdot 1}}{\left(t_{\cdot 1}+2k^2\,t_{\cdot 1}\right)^2}$

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

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

Massive spectrum



Massive particle

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

Massless spectrum

(No particles)

Unitarity conditions

$r_{\cdot 2} < 0\ \&\&\ t_{\cdot 1} < 0$