PSALTer results panel

$$\mathcal{S} == \iiint\!\!\iint\left(\frac{1}{6}\left(-4\,t_{.3}\,\mathcal{A}^{\alpha\prime}{}_{\alpha}\,\mathcal{A}_{\prime}{}^{\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_{\prime}f^{\alpha\prime}-8\,t_{.3}\,\mathcal{A}_{\prime}{}^{\theta}{}_{\theta}\,\partial^{\prime}f^{\alpha}{}_{\alpha}+4\,t_{.3}\,\partial_{\prime}f^{\theta}{}_{\theta}\,\partial^{\prime}f^{\alpha}{}_{\alpha}+4\,t_{.3}\,\partial_{\prime}f^{\alpha\prime}\,\partial_{\theta}f_{\alpha}{}^{\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}+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)\right)\right)[t,\,x,\,y,\,z]\,dz\,dy\,dx\,dt$$

Wave operator

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

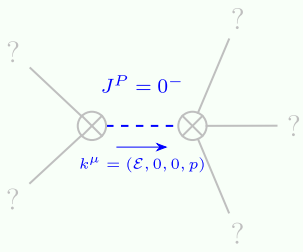
	$\overset{1^+}{\cdot}\sigma^{\parallel}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\sigma^{\perp}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\tau^{\parallel}{}_{\alpha\beta}$	$\overset{1^-}{\cdot}\sigma^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}\sigma^{\perp}{}_{\alpha}$	$\overset{1^-}{\cdot}\tau^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}\tau^{\perp}{}_{\alpha}$
$\overset{1^+}{\cdot}\sigma^{\parallel}\,\dagger^{\alpha\beta}$	$\frac{6}{(3+k^2)^2\,t_{.2}}$	$\frac{3\sqrt{2}}{(3+k^2)^2\,t_{.2}}$	$\frac{3\,i\sqrt{2}\,k}{(3+k^2)^2\,t_{.2}}$	0	0	0	0
$\overset{1^+}{\cdot}\sigma^{\perp}\,\dagger^{\alpha\beta}$	$\frac{3\sqrt{2}}{(3+k^2)^2\,t_{.2}}$	$\frac{3}{(3+k^2)^2\,t_{.2}}$	$\frac{3\,i\,k}{(3+k^2)^2\,t_{.2}}$	0	0	0	0
$\overset{1^+}{\cdot}\tau^{\parallel}\,\dagger^{\alpha\beta}$	$-\frac{3\,i\sqrt{2}\,k}{(3+k^2)^2\,t_{.2}}$	$-\frac{3\,i\,k}{(3+k^2)^2\,t_{.2}}$	$\frac{3\,k^2}{(3+k^2)^2\,t_{.2}}$	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
$-2\,i\,k\,\overset{0^+}{\cdot}\sigma^{\parallel}+\overset{0^+}{\cdot}\tau^{\parallel} == 0$	$\partial_\beta\partial_\alpha\tau\,(\Delta+\mathcal{K})^{\alpha\beta} == \partial_\beta\partial^\beta\tau\,(\Delta+\mathcal{K})^{\alpha}{}_{\alpha}+2\,\partial_\chi\partial^\chi\partial_\beta\sigma^{\alpha}{}_{\alpha}{}^{\beta}$	1
$-i\,k\,\overset{1^-}{\cdot}\sigma^{\parallel\,\alpha}+\overset{1^-}{\cdot}\tau^{\perp\,\alpha} == 0$	$\partial_\chi\partial_\beta\partial^\alpha\tau\,(\Delta+\mathcal{K})^{\beta\chi}+\partial_\delta\partial^\delta\partial_\chi\partial_\beta\sigma^{\beta\alpha\chi} == \partial_\chi\partial^\chi\partial_\beta\tau\,(\Delta+\mathcal{K})^{\alpha\beta}+\partial_\delta\partial^\delta\partial_\chi\partial^\alpha\sigma^{\beta}{}_{\beta}{}^{\chi}+\partial_\delta\partial^\delta\partial_\chi\partial^\chi\sigma^{\beta\alpha}{}_{\beta}$	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
$\overset{1^-}{\cdot}\sigma^{\parallel\,\alpha}+2\,\overset{1^-}{\cdot}\sigma^{\perp\,\alpha} == 0$	$\partial_\chi\partial^\alpha\sigma^{\beta}{}_{\beta}{}^{\chi}+\partial_\chi\partial^\chi\sigma^{\beta\alpha}{}_{\beta} == 3\,\partial_\chi\partial_\beta\sigma^{\beta\alpha\chi}$	3
$i\,k\,\overset{1^+}{\cdot}\sigma^{\parallel\,\alpha\beta}+\overset{1^+}{\cdot}\tau^{\parallel\,\alpha\beta} == 0$	$\partial_\chi\partial^\alpha\tau\,(\Delta+\mathcal{K})^{\beta\chi}+\partial_\chi\partial^\beta\tau\,(\Delta+\mathcal{K})^{\chi\alpha}+\partial_\chi\partial^\chi\tau\,(\Delta+\mathcal{K})^{\alpha\beta}+\partial_\delta\partial_\chi\partial^\beta\sigma^{\chi\alpha\delta}+\partial_\delta\partial^\delta\partial_\chi\sigma^{\alpha\beta\chi} == \partial_\chi\partial^\alpha\tau\,(\Delta+\mathcal{K})^{\chi\beta}+\partial_\chi\partial^\beta\tau\,(\Delta+\mathcal{K})^{\alpha\chi}+\partial_\chi\partial^\chi\tau\,(\Delta+\mathcal{K})^{\beta\alpha}+\partial_\delta\partial_\chi\partial^\alpha\sigma^{\chi\beta\delta}+\partial_\delta\partial^\delta\partial_\chi\sigma^{\beta\alpha\chi}$	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}+2\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\delta\sigma^{\beta\alpha\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
$\overset{2^+}{\cdot}\tau^{\parallel\,\alpha\beta} == 0$	$4\,\partial_\delta\partial_\chi\partial^\beta\partial^\alpha\tau\,(\Delta+\mathcal{K})^{\chi\delta}+2\,\partial_\delta\partial^\delta\partial^\beta\partial^\alpha\tau\,(\Delta+\mathcal{K})^{\chi}{}_{\chi}+3\,\partial_\delta\partial^\delta\partial_\chi\partial^\chi\tau\,(\Delta+\mathcal{K})^{\alpha\beta}+3\,\partial_\delta\partial^\delta\partial_\chi\partial^\chi\tau\,(\Delta+\mathcal{K})^{\beta\alpha}+2\,\eta^{\alpha\beta}\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial_\chi\tau\,(\Delta+\mathcal{K})^{\chi\delta} == 3\,\partial_\delta\partial^\delta\partial_\chi\partial^\alpha\tau\,(\Delta+\mathcal{K})^{\beta\chi}+3\,\partial_\delta\partial^\delta\partial_\chi\partial^\beta\tau\,(\Delta+\mathcal{K})^{\chi\alpha}+3\,\partial_\delta\partial^\delta\partial_\chi\partial^\alpha\tau\,(\Delta+\mathcal{K})^{\chi\beta}+3\,\partial_\delta\partial^\delta\partial_\chi\partial^\beta\tau\,(\Delta+\mathcal{K})^{\alpha\chi}+3\,\partial_\delta\partial^\delta\partial_\chi\partial^\beta\tau\,(\Delta+\mathcal{K})^{\chi\alpha}+2\,\eta^{\alpha\beta}\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\delta\tau\,(\Delta+\mathcal{K})^{\chi}{}_{\chi}$	5
$\overset{2^+}{\cdot}\sigma^{\parallel\,\alpha\beta} == 0$	$3\,\partial_\delta\partial_\chi\partial^\alpha\sigma^{\chi\beta\delta}+3\,\partial_\delta\partial_\chi\partial^\beta\sigma^{\chi\alpha\delta}+2\,\eta^{\alpha\beta}\,\partial_\epsilon\partial^\epsilon\partial_\delta\sigma^{\chi}{}_{\chi}{}^{\delta} == 2\,\partial_\delta\partial^\beta\partial^\alpha\sigma^{\chi}{}_{\chi}{}^{\delta}+3\left(\partial_\delta\partial^\delta\partial_\chi\sigma^{\alpha\beta\chi}+\partial_\delta\partial^\delta\partial_\chi\sigma^{\beta\alpha\chi}\right)$	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

(No particles)

Unitarity conditions

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