PSALTer results panel

$$\mathcal{S} == \iiint\!\!\iint\Big(\tfrac{1}{6}\,(2\,t_{.1}\,\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} - 4\,t_{.1}\,\mathcal{A}_{\alpha}{}^{\theta}{}_{\theta}\,\partial_{\prime}f^{\alpha\prime} - 24\,r_{.3}\,\partial_{\beta}\mathcal{A}_{\prime}{}^{\theta}{}_{\theta}\partial^{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha} + 4\,t_{.1}\,\mathcal{A}_{\prime}{}^{\theta}{}_{\theta}\,\partial^{\prime}f^{\alpha}{}_{\alpha} - 2\,t_{.1}\,\partial_{\prime}f^{\theta}{}_{\theta}\partial^{\prime}f^{\alpha}{}_{\alpha} - 24\,r_{.3}\,\partial_{\alpha}\mathcal{A}^{\alpha\beta\prime}\partial_{\theta}\mathcal{A}_{\prime}{}^{\theta}{}_{\beta} + 48\,r_{.3}\,\partial^{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha}\partial_{\theta}\mathcal{A}_{\prime}{}^{\theta}{}_{\beta} - 2\,t_{.1}\,\partial_{\prime}f^{\alpha\prime}\partial_{\theta}f_{\alpha}{}^{\theta} + 4\,t_{.1}\,\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} - 24\,r_{.3}\,\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_{.1}\,\mathcal{A}_{\prime\theta\alpha}\,\partial^{\theta}f^{\alpha\prime} + 4\,t_{.2}\,\mathcal{A}_{\prime\theta\alpha}\,\partial^{\theta}f^{\alpha\prime} - 4\,t_{.1}\,\partial_{\alpha}f_{\prime\theta}\partial^{\theta}f^{\alpha\prime} + 2\,t_{.2}\,\partial_{\alpha}f_{\prime\theta}\partial^{\theta}f^{\alpha\prime} - 4\,t_{.1}\,\partial_{\alpha}f_{\theta\prime}\partial^{\theta}f^{\alpha\prime} - t_{.2}\,\partial_{\alpha}f_{\theta\prime}\partial^{\theta}f^{\alpha\prime} + 2\,t_{.1}\,\partial_{\prime}f_{\alpha\theta}\partial^{\theta}f^{\alpha\prime} - t_{.2}\,\partial_{\prime}f_{\alpha\theta}\partial^{\theta}f^{\alpha\prime} + 4\,t_{.1}\,\partial_{\theta}f_{\alpha\prime}\partial^{\theta}f^{\alpha\prime} + t_{.2}\,\partial_{\theta}f_{\alpha\prime}\partial^{\theta}f^{\alpha\prime} + 2\,t_{.1}\,\partial_{\theta}f_{\prime\alpha}\partial^{\theta}f^{\alpha\prime} - t_{.2}\,\partial_{\theta}f_{\prime\alpha}\partial^{\theta}f^{\alpha\prime} + 2\,(t_{.1}+t_{.2})\,\mathcal{A}_{\alpha\prime\theta}\,(\mathcal{A}^{\alpha\prime\theta} + 2\,\partial^{\theta}f^{\alpha\prime}) + 2\,\mathcal{A}_{\alpha\theta\prime}\,((t_{.1}-2\,t_{.2})\,\mathcal{A}^{\alpha\prime\theta} + 2\,(2\,t_{.1}-t_{.2})\,\partial^{\theta}f^{\alpha\prime})\Big))[t, x, y, z]\,dt\,dz\,dy\,dx\,dt$$

Wave operator

	$0^+_{.}\mathcal{A}^{\parallel}$	$0^+_{.}f^{\parallel}$	$0^+_{.}f^{\perp}$	$0^-_{.}\mathcal{A}^{\parallel}$
$0^+_{.}\mathcal{A}^{\parallel}\,\dagger$	$6\,k^2\,r_{.3}$	0	0	0
$0^+_{.}f^{\parallel}\,\dagger$	0	0	0	0
$0^+_{.}f^{\perp}\,\dagger$	0	0	0	0
$0^-_{.}\mathcal{A}^{\parallel}\,\dagger$	0	0	0	$k^2\,r_{.2} + t_{.2}$

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

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

Saturated propagator

	$0^+_{.}\sigma^{\parallel}$	$0^+_{.}\tau^{\parallel}$	$0^+_{.}\tau^{\perp}$	$0^-_{.}\sigma^{\parallel}$
$0^+_{.}\sigma^{\parallel}\,\dagger$	$\frac{1}{6\,k^2\,r_{.3}}$	0	0	0
$0^+_{.}\tau^{\parallel}\,\dagger$	0	0	0	0
$0^+_{.}\tau^{\perp}\,\dagger$	0	0	0	0
$0^-_{.}\sigma^{\parallel}\,\dagger$	0	0	0	$\frac{1}{k^2\,r_{.2}+t_{.2}}$

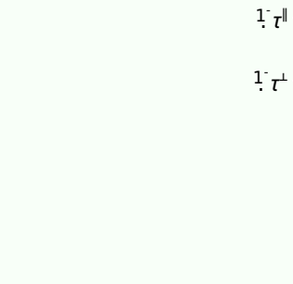
	$1^+_{.}\sigma^{\parallel}{}_{\alpha\beta}$	$1^+_{.}\sigma^{\perp}{}_{\alpha\beta}$	$1^+_{.}\tau^{\parallel}{}_{\alpha\beta}$	$1^-_{.}\sigma^{\parallel}{}_{\alpha}$	$1^-_{.}\sigma^{\perp}{}_{\alpha}$	$1^-_{.}\tau^{\parallel}{}_{\alpha}$	$1^-_{.}\tau^{\perp}{}_{\alpha}$
$1^+_{.}\sigma^{\parallel}\,\dagger^{\alpha\beta}$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

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

Source constraints

Spin-parity form	Covariant form	Multiplicities
$0^+_{.}\tau^{\perp} == 0$	$\partial_{\beta}\partial_{\alpha}\tau\,(\Delta+\mathcal{K})^{\alpha\beta} == 0$	1
$0^+_{.}\tau^{\parallel} == 0$	$\partial_{\beta}\partial_{\alpha}\tau\,(\Delta+\mathcal{K})^{\alpha\beta} == \partial_{\beta}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\alpha}{}_{\alpha}$	1
$2\,i\,k\;1^-_{.}\sigma^{\parallel\,\alpha} + 1^-_{.}\tau^{\perp\,\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\beta\chi} + 2\,(\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\beta}{}_{\beta}{}^{\chi} - \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi} + \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\sigma^{\beta\alpha}{}_{\beta}) == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau\,(\Delta+\mathcal{K})^{\alpha\beta}$	3
$1^-_{.}\tau^{\parallel\,\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\beta\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau\,(\Delta+\mathcal{K})^{\beta\alpha}$	3
$1^-_{.}\sigma^{\parallel\,\alpha} == 1^-_{.}\sigma^{\perp\,\alpha}$	$\partial_{\chi}\partial^{\alpha}\sigma^{\beta}{}_{\beta}{}^{\chi} + \partial_{\chi}\partial^{\chi}\sigma^{\beta\alpha}{}_{\beta} == 0$	3
$i\,k\;1^+_{.}\sigma^{\perp\,\alpha\beta} + 1^+_{.}\tau^{\parallel\,\alpha\beta} == 0$	$\partial_{\chi}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\beta\chi} + \partial_{\chi}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\chi\alpha} + \partial_{\chi}\partial^{\chi}\tau\,(\Delta+\mathcal{K})^{\alpha\beta} + 2\,\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta} + 2\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\chi\alpha\beta} == \partial_{\chi}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\chi\beta} + \partial_{\chi}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\alpha\chi} + \partial_{\chi}\partial^{\chi}\tau\,(\Delta+\mathcal{K})^{\beta\alpha} + 2\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta}$	3
$-2\,i\,k\;2^+_{.}\sigma^{\parallel\,\alpha\beta} + 2^+_{.}\tau^{\parallel\,\alpha\beta} == 0$	$-i\,(4\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\chi\delta} + 2\,\partial_{\delta}\partial^{\delta}\partial^{\beta}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\chi}{}_{\chi} - 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\beta\chi} - 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\chi\beta} - 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\alpha\chi} - 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\chi\alpha} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau\,(\Delta+\mathcal{K})^{\alpha\beta} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau\,(\Delta+\mathcal{K})^{\beta\alpha} + 4\,i\,k^{\chi}\,\partial_{\epsilon}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\sigma^{\delta}{}_{\delta}{}^{\epsilon} - 6\,i\,k^{\chi}\,\partial_{\epsilon}\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\delta\beta\epsilon} - 6\,i\,k^{\chi}\,\partial_{\epsilon}\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\delta\alpha\epsilon} + 6\,i\,k^{\chi}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\sigma^{\alpha\beta\delta} + 6\,i\,k^{\chi}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\sigma^{\beta\alpha\delta} + 2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\tau\,(\Delta+\mathcal{K})^{\chi\delta} - 2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\tau\,(\Delta+\mathcal{K})^{\chi}{}_{\chi} - 4\,i\,\eta^{\alpha\beta}\,k^{\chi}\,\partial_{\phi}\partial^{\phi}\partial_{\epsilon}\partial_{\chi}\sigma^{\delta}{}_{\delta}{}^{\epsilon}) == 0$	5
Total expected gauge generators:		19

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

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