PSALTer results panel

$$\mathcal{S} == \int\int\int\int (\frac{1}{6} (-4 t_{3} \mathcal{A}^{\alpha\iota}{}_{\alpha} \mathcal{A}_{\iota}{}^{\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_{\iota} f^{\alpha\iota} - 6 r_{3} \partial_{\beta} \mathcal{A}_{\iota}{}^{\theta}{}_{\theta} \partial^{\iota} \mathcal{A}^{\alpha\beta}{}_{\alpha} - 8 t_{3} \mathcal{A}_{\iota}{}^{\theta}{}_{\theta} \partial^{\iota} f^{\alpha}{}_{\alpha} + 4 t_{3} \partial_{\iota} f^{\theta}{}_{\theta} \partial^{\iota} f^{\alpha}{}_{\alpha} - 6 r_{3} \partial_{\alpha} \mathcal{A}^{\alpha\beta\iota} \partial_{\theta} \mathcal{A}_{\iota}{}^{\theta}{}_{\beta} + 12 r_{3} \partial^{\iota} \mathcal{A}^{\alpha\beta}{}_{\alpha} \partial_{\theta} \mathcal{A}_{\iota}{}^{\theta}{}_{\beta} + 4 t_{3} \partial_{\iota} f^{\alpha\iota} \partial_{\theta} f_{\alpha}{}^{\theta} - 8 t_{3} \partial^{\iota} f^{\alpha}{}_{\alpha} \partial_{\theta} f_{\iota}{}^{\theta} + 8 r_{2} \partial_{\beta} \mathcal{A}_{\alpha\iota\theta} \partial^{\theta} \mathcal{A}^{\alpha\beta\iota} - 4 r_{2} \partial_{\beta} \mathcal{A}_{\alpha\theta\iota} \partial^{\theta} \mathcal{A}^{\alpha\beta\iota} + 4 r_{2} \partial_{\beta} \mathcal{A}_{\iota\theta\alpha} \partial^{\theta} \mathcal{A}^{\alpha\beta\iota} - 24 r_{3} \partial_{\beta} \mathcal{A}_{\iota\theta\alpha} \partial^{\theta} \mathcal{A}^{\alpha\beta\iota} - 2 r_{2} \partial_{\iota} \mathcal{A}_{\alpha\beta\theta} \partial^{\theta} \mathcal{A}^{\alpha\beta\iota} + 2 r_{2} \partial_{\theta} \mathcal{A}_{\alpha\beta\iota} \partial^{\theta} \mathcal{A}^{\alpha\beta\iota} - 4 r_{2} \partial_{\theta} \mathcal{A}_{\alpha\iota\beta} \partial^{\theta} \mathcal{A}^{\alpha\beta\iota} + 4 t_{2} \mathcal{A}_{\iota\theta\alpha} \partial^{\theta} f^{\alpha\iota} + 2 t_{2} \partial_{\alpha} f_{\iota\theta} \partial^{\theta} f^{\alpha\iota} - t_{2} \partial_{\alpha} f_{\theta\iota} \partial^{\theta} f^{\alpha\iota} - t_{2} \partial_{\iota} f_{\alpha\theta} \partial^{\theta} f^{\alpha\iota} + t_{2} \partial_{\theta} f_{\alpha\iota} \partial^{\theta} f^{\alpha\iota} - t_{2} \partial_{\theta} f_{\iota\alpha} \partial^{\theta} f^{\alpha\iota} - 4 t_{2} \mathcal{A}_{\alpha\theta\iota} (\mathcal{A}^{\alpha\iota\theta} + \partial^{\theta} f^{\alpha\iota}) + 2 t_{2} \mathcal{A}_{\alpha\iota\theta} (\mathcal{A}^{\alpha\iota\theta} + 2 \partial^{\theta} f^{\alpha\iota})))[t, x, y, z] dz dy dx dt$$

Wave operator

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

	$1^+_{.}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$1^+_{.}\mathcal{A}^{\perp}{}_{\alpha\beta}$	$1^+_{.}f^{\parallel}{}_{\alpha\beta}$	$1^-_{.}\mathcal{A}^{\parallel}{}_{\alpha}$	$1^-_{.}\mathcal{A}^{\perp}{}_{\alpha}$	$1^-_{.}f^{\parallel}{}_{\alpha}$	$1^-_{.}f^{\perp}{}_{\alpha}$
$1^+_{.}\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$\frac{1}{6}(9k^2 r_{3} + 4t_{2})$	$\frac{\sqrt{2}\,t_{2}}{3}$	$\frac{1}{3} i\sqrt{2}\,k t_{2}$	0	0	0	0
$1^+_{.}\mathcal{A}^{\perp}\dagger^{\alpha\beta}$	$\frac{\sqrt{2}\,t_{2}}{3}$	$\frac{t_{2}}{3}$	$\frac{i k t_{2}}{3}$	0	0	0	0
$1^+_{.}f^{\parallel}\dagger^{\alpha\beta}$	$-\frac{1}{3} i\sqrt{2}\,k t_{2}$	$-\frac{1}{3} i k t_{2}$	$\frac{k^2 t_{2}}{3}$	0	0	0	0
$1^-_{.}\mathcal{A}^{\parallel}\dagger^{\alpha}$	0	0	0	$\frac{2t_{3}}{3}$	$-\frac{\sqrt{2}\,t_{3}}{3}$	0	$-\frac{2}{3} i k t_{3}$
$1^-_{.}\mathcal{A}^{\perp}\dagger^{\alpha}$	0	0	0	$-\frac{\sqrt{2}\,t_{3}}{3}$	$\frac{t_{3}}{3}$	0	$\frac{1}{3} i\sqrt{2}\,k t_{3}$
$1^-_{.}f^{\parallel}\dagger^{\alpha}$	0	0	0	0	0	0	0
$1^-_{.}f^{\perp}\dagger^{\alpha}$	0	0	0	$\frac{2 i k t_{3}}{3}$	$-\frac{1}{3} i\sqrt{2}\,k t_{3}$	0	$\frac{2k^2 t_{3}}{3}$

	$2^+_{.}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$2^+_{.}f^{\parallel}{}_{\alpha\beta}$	$2^-_{.}\mathcal{A}^{\parallel}{}_{\alpha\beta\chi}$
$2^+_{.}\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$-\frac{3k^2 r_{3}}{2}$	0	0
$2^+_{.}f^{\parallel}\dagger^{\alpha\beta}$	0	0	0
$2^-_{.}\mathcal{A}^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	0

Saturated propagator

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

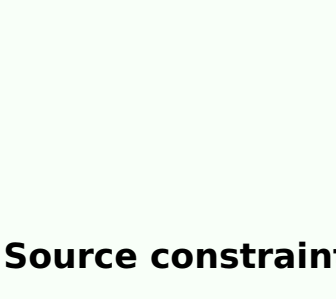
	$1^+_{.}\sigma^{\parallel}{}_{\alpha\beta}$	$1^+_{.}\sigma^{\perp}{}_{\alpha\beta}$	$1^+_{.}\tau^{\parallel}{}_{\alpha\beta}$	$1^-_{.}\sigma^{\parallel}{}_{\alpha}$	$1^-_{.}\sigma^{\perp}{}_{\alpha}$	$1^-_{.}\tau^{\parallel}{}_{\alpha}$	$1^-_{.}\tau^{\perp}{}_{\alpha}$
$1^+_{.}\sigma^{\parallel}\dagger^{\alpha\beta}$	$\frac{2}{3k^2 r_{3}}$	$-\frac{2\sqrt{2}}{3k^2 r_{3} + 3k^4 r_{3}}$	$-\frac{2i\sqrt{2}}{3k r_{3} + 3k^3 r_{3}}$	0	0	0	0
$1^+_{.}\sigma^{\perp}\dagger^{\alpha\beta}$	$-\frac{2\sqrt{2}}{3k^2 r_{3} + 3k^4 r_{3}}$	$\frac{9k^2 r_{3} + 4t_{2}}{3(k+k^3)^2 r_{3} t_{2}}$	$\frac{i(9k^2 r_{3} + 4t_{2})}{3k(1+k^2)^2 r_{3} t_{2}}$	0	0	0	0
$1^+_{.}\tau^{\parallel}\dagger^{\alpha\beta}$	$\frac{2i\sqrt{2}}{3k r_{3} + 3k^3 r_{3}}$	$-\frac{i(9k^2 r_{3} + 4t_{2})}{3k(1+k^2)^2 r_{3} t_{2}}$	$\frac{9k^2 r_{3} + 4t_{2}}{3(1+k^2)^2 r_{3} t_{2}}$	0	0	0	0
$1^-_{.}\sigma^{\parallel}\dagger^{\alpha}$	0	0	0	$\frac{6}{(3+2k^2)^2 t_{3}}$	$-\frac{3\sqrt{2}}{(3+2k^2)^2 t_{3}}$	0	$-\frac{6ik}{(3+2k^2)^2 t_{3}}$
$1^-_{.}\sigma^{\perp}\dagger^{\alpha}$	0	0	0	$-\frac{3\sqrt{2}}{(3+2k^2)^2 t_{3}}$	$\frac{3}{(3+2k^2)^2 t_{3}}$	0	$\frac{3i\sqrt{2}\,k}{(3+2k^2)^2 t_{3}}$
$1^-_{.}\tau^{\parallel}\dagger^{\alpha}$	0	0	0	0	0	0	0
$1^-_{.}\tau^{\perp}\dagger^{\alpha}$	0	0	0	$\frac{6ik}{(3+2k^2)^2 t_{3}}$	$-\frac{3i\sqrt{2}\,k}{(3+2k^2)^2 t_{3}}$	0	$\frac{6k^2}{(3+2k^2)^2 t_{3}}$

	$2^+_{.}\sigma^{\parallel}{}_{\alpha\beta}$	$2^+_{.}\tau^{\parallel}{}_{\alpha\beta}$	$2^-_{.}\sigma^{\parallel}{}_{\alpha\beta\chi}$
$2^+_{.}\sigma^{\parallel}\dagger^{\alpha\beta}$	$-\frac{2}{3k^2 r_{3}}$	0	0
$2^+_{.}\tau^{\parallel}\dagger^{\alpha\beta}$	0	0	0
$2^-_{.}\sigma^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	0

Source constraints

Spin-parity form	Covariant form	Multiplicities
$0^+_{.}\tau^{\perp} == 0$	$\partial_{\beta}\partial_{\alpha}\tau(\Delta+\mathcal{K})^{\alpha\beta} == 0$	1
$-2ik\,0^+_{.}\sigma^{\parallel} + 0^+_{.}\tau^{\parallel} == 0$	$\partial_{\beta}\partial_{\alpha}\tau(\Delta+\mathcal{K})^{\alpha\beta} == \partial_{\beta}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha}{}_{\alpha} + 2\partial_{\chi}\partial^{\chi}\partial_{\beta}\sigma^{\alpha}{}_{\alpha}{}^{\beta}$	1
$-ik\,1^-_{.}\sigma^{\parallel\alpha} + 1^-_{.}\tau^{\perp\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} + \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau(\Delta+\mathcal{K})^{\alpha\beta} + \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\beta}{}_{\beta}{}^{\chi} + \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\sigma^{\beta\alpha}{}_{\beta}$	3
$1^-_{.}\tau^{\parallel\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau(\Delta+\mathcal{K})^{\beta\alpha}$	3
$1^-_{.}\sigma^{\parallel\alpha} + 2\,1^-_{.}\sigma^{\perp\alpha} == 0$	$\partial_{\chi}\partial^{\alpha}\sigma^{\beta}{}_{\beta}{}^{\chi} + \partial_{\chi}\partial^{\chi}\sigma^{\beta\alpha}{}_{\beta} == 3\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi}$	3
$ik\,1^+_{.}\sigma^{\perp\alpha\beta} + 1^+_{.}\tau^{\parallel\alpha\beta} == 0$	$\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} + \partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\chi\alpha} + \partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\alpha\beta} + 2\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta} + 2\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\chi\alpha\beta} == \partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\beta} + \partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha\chi} + \partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\beta\alpha} + 2\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta}$	3
$2^-_{.}\sigma^{\parallel\alpha\beta\chi} == 0$	$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^{\chi}\sigma^{\delta\alpha\beta} + 2\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\sigma^{\alpha\beta\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^{\delta}\sigma^{\beta\alpha\chi} + 2\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
$2^+_{.}\tau^{\parallel\alpha\beta} == 0$	$4\partial_{\delta}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\delta} + 2\partial_{\delta}\partial^{\delta}\partial^{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi}{}_{\chi} + 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\alpha\beta} + 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\beta\alpha} + 2\eta^{\alpha\beta}\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\tau(\Delta+\mathcal{K})^{\chi\delta} == 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} + 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\beta} + 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha\chi} + 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\chi\alpha} + 2\eta^{\alpha\beta}\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\tau(\Delta+\mathcal{K})^{\chi}{}_{\chi}$	5
Total expected gauge generators:		24

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

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