PSALTer results panel

$$\mathcal{S} == \iiiint \Big(\frac{1}{6}\big(-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})\big)\Big)[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	$\frac{1}{k^2 r_2 + t_2}$

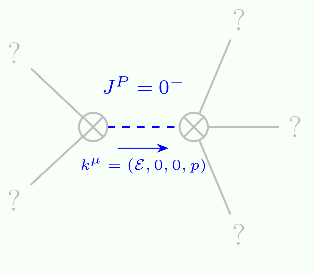
	$1^+\sigma^\parallel{}_{\alpha\beta}$	$1^+\sigma^\perp{}_{\alpha\beta}$	$1^+\tau^\parallel{}_{\alpha\beta}$	$1^-\sigma^\parallel{}_\alpha$	$1^-\sigma^\perp{}_\alpha$	$1^-\tau^\parallel{}_\alpha$	$1^-\tau^\perp{}_\alpha$
$1^+\sigma^\parallel\dagger^{\alpha\beta}$	$\frac{2}{3k^2 r_3}$	$-\frac{2\sqrt{2}}{3k^2 r_3 + 3k^4 r_3}$	$-\frac{2i\sqrt{2}}{3k r_3 + 3k^3 r_3}$	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
$2^-\sigma^{\parallel\alpha\beta\chi} == 0$	$3\partial_\epsilon\partial_\delta\partial^\chi\partial^\alpha\sigma^{\delta\beta\epsilon} + 3\partial_\epsilon\partial^\epsilon\partial^\chi\partial^\alpha\sigma^{\delta\beta}{}_\delta + 2\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\beta\sigma^{\alpha\chi\delta} + 4\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\beta\sigma^{\chi\alpha\delta} +$ $2\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\beta\sigma^{\delta\alpha\chi} + 2\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\chi\sigma^{\beta\alpha\delta} + 4\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\chi\sigma^{\delta\alpha\beta} + 2\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\delta\sigma^{\alpha\beta\chi} +$ $3\eta^{\beta\chi}\partial_\phi\partial^\phi\partial_\epsilon\partial^\alpha\sigma^\delta{}_\delta{}^\epsilon + 3\eta^{\alpha\chi}\partial_\phi\partial^\phi\partial_\epsilon\partial_\delta\sigma^{\delta\beta\epsilon} + 3\eta^{\beta\chi}\partial_\phi\partial^\phi\partial_\epsilon\partial^\epsilon\sigma^{\delta\alpha}{}_\delta ==$ $3\partial_\epsilon\partial_\delta\partial^\chi\partial^\beta\sigma^{\delta\alpha\epsilon} + 3\partial_\epsilon\partial^\epsilon\partial^\chi\partial^\beta\sigma^{\delta\alpha}{}_\delta + 2\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\alpha\sigma^{\beta\chi\delta} + 4\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\alpha\sigma^{\chi\beta\delta} +$ $2\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\alpha\sigma^{\delta\beta\chi} + 2\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\chi\sigma^{\alpha\beta\delta} + 2\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\delta\sigma^{\beta\alpha\chi} + 4\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\delta\sigma^{\chi\alpha\beta} +$ $3\eta^{\alpha\chi}\partial_\phi\partial^\phi\partial_\epsilon\partial^\beta\sigma^\delta{}_\delta{}^\epsilon + 3\eta^{\beta\chi}\partial_\phi\partial^\phi\partial_\epsilon\partial_\delta\sigma^{\delta\alpha\epsilon} + 3\eta^{\alpha\chi}\partial_\phi\partial^\phi\partial_\epsilon\partial^\epsilon\sigma^{\delta\beta}{}_\delta$	5
$2^+\tau^{\parallel\alpha\beta} == 0$	$4\partial_\delta\partial_\chi\partial^\beta\partial^\alpha\tau(\Delta+\mathcal{K})^{\chi\delta} + 2\partial_\delta\partial^\delta\partial^\beta\partial^\alpha\tau(\Delta+\mathcal{K})^\chi{}_\chi + 3\partial_\delta\partial^\delta\partial_\chi\partial^\chi\tau(\Delta+\mathcal{K})^{\alpha\beta} + 3\partial_\delta\partial^\delta\partial_\chi\partial^\chi\tau(\Delta+\mathcal{K})^{\beta\alpha} +$ $2\eta^{\alpha\beta}\partial_\epsilon\partial^\epsilon\partial_\delta\partial_\chi\tau(\Delta+\mathcal{K})^{\chi\delta} == 3\partial_\delta\partial^\delta\partial_\chi\partial^\alpha\tau(\Delta+\mathcal{K})^{\beta\chi} + 3\partial_\delta\partial^\delta\partial_\chi\partial^\alpha\tau(\Delta+\mathcal{K})^{\chi\beta} +$ $3\partial_\delta\partial^\delta\partial_\chi\partial^\beta\tau(\Delta+\mathcal{K})^{\alpha\chi} + 3\partial_\delta\partial^\delta\partial_\chi\partial^\beta\tau(\Delta+\mathcal{K})^{\chi\alpha} + 2\eta^{\alpha\beta}\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\delta\tau(\Delta+\mathcal{K})^\chi{}_\chi$	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

$r_2 < 0 \&\& t_2 > 0$