PSALTer results panel

$$\mathcal{S} == \int\int\int\int (\frac{1}{6}(-4 t_3\, \mathcal{A}^{\alpha\iota}{}_{\alpha}\ \mathcal{A}_{\iota}{}^{\theta}{}_{\theta} + 6\, \mathcal{A}^{\alpha\beta\chi}\ \sigma_{\alpha\beta\chi} + 6\, f^{\alpha\beta}\ \tau(\Delta+\mathcal{K})_{\alpha\beta} + 8 t_3\, \mathcal{A}_{\alpha}{}^{\theta}\ \partial_\iota f^{\alpha\iota} - 3 r_3\, \partial_\beta \mathcal{A}_{\iota}{}^{\theta}{}_{\theta} \partial^\iota \mathcal{A}^{\alpha\beta}{}_{\alpha} - 3 r_3\, \partial_\iota \mathcal{A}_{\beta}{}^{\theta}{}_{\theta} \partial^\iota \mathcal{A}^{\alpha\beta}{}_{\alpha} - 8 t_3\, \mathcal{A}_{\iota}{}^{\theta}{}_{\theta}\ \partial^\iota f^{\alpha}{}_{\alpha} + 4 t_3\, \partial_\iota f^{\theta}{}_{\theta} \partial^\iota f^{\alpha}{}_{\alpha} -$$
$$3 r_3\, \partial_\alpha \mathcal{A}^{\alpha\beta\iota} \partial_\theta \mathcal{A}_{\beta}{}^{\theta}{}_{\iota} + 6 r_3\, \partial^\iota \mathcal{A}^{\alpha\beta}{}_{\alpha} \partial_\theta \mathcal{A}_{\beta}{}^{\theta}{}_{\iota} - 3 r_3\, \partial_\alpha \mathcal{A}^{\alpha\beta\iota} \partial_\theta \mathcal{A}_{\iota}{}^{\theta}{}_{\beta} + 6 r_3\, \partial^\iota \mathcal{A}^{\alpha\beta}{}_{\alpha} \partial_\theta \mathcal{A}_{\iota}{}^{\theta}{}_{\beta} + 4 t_3\, \partial_\iota f^{\alpha\iota} \partial_\theta f_{\alpha}{}^{\theta} - 8 t_3\, \partial^\iota f^{\alpha}{}_{\alpha} \partial_\theta f_{\iota}{}^{\theta} + 8 r_2\, \partial_\beta \mathcal{A}_{\alpha\iota\theta} \partial^\theta \mathcal{A}^{\alpha\beta\iota} - 4 r_2\, \partial_\beta \mathcal{A}_{\alpha\theta\iota} \partial^\theta \mathcal{A}^{\alpha\beta\iota} + 4 r_2\, \partial_\beta \mathcal{A}_{\iota\theta\alpha} \partial^\theta \mathcal{A}^{\alpha\beta\iota} - 24 r_3\, \partial_\beta \mathcal{A}_{\iota\theta\alpha} \partial^\theta \mathcal{A}^{\alpha\beta\iota} -$$
$$2 r_2\, \partial_\iota \mathcal{A}_{\alpha\beta\theta} \partial^\theta \mathcal{A}^{\alpha\beta\iota} + 2 r_2\, \partial_\theta \mathcal{A}_{\alpha\beta\iota} \partial^\theta \mathcal{A}^{\alpha\beta\iota} - 4 r_2\, \partial_\theta \mathcal{A}_{\alpha\iota\beta} \partial^\theta \mathcal{A}^{\alpha\beta\iota} + 6 r_5\, \partial_\iota \mathcal{A}_{\theta}{}^{\kappa}{}_{\kappa} \partial^\theta \mathcal{A}^{\alpha\iota}{}_{\alpha} - 6 r_5\, \partial_\theta \mathcal{A}_{\iota}{}^{\kappa}{}_{\kappa} \partial^\theta \mathcal{A}^{\alpha\iota}{}_{\alpha} - 6 r_5\, \partial_\alpha \mathcal{A}^{\alpha\iota\theta} \partial_\kappa \mathcal{A}_{\iota}{}^{\kappa}{}_{\theta} + 12 r_5\, \partial^\theta \mathcal{A}^{\alpha\iota}{}_{\alpha} \partial_\kappa \mathcal{A}_{\iota}{}^{\kappa}{}_{\theta} + 6 r_5\, \partial_\alpha \mathcal{A}^{\alpha\iota\theta} \partial_\kappa \mathcal{A}_{\theta}{}^{\kappa}{}_{\iota} - 12 r_5\, \partial^\theta \mathcal{A}^{\alpha\iota}{}_{\alpha} \partial_\kappa \mathcal{A}_{\theta}{}^{\kappa}{}_{\iota}))[t, x, y, z]\, dz\, dy\, dx\, dt$$

Wave operator

	$0^+_\cdot\mathcal{A}^\parallel$	$0^+_\cdot f^\parallel$	$0^+_\cdot f^\perp$	$0^-_\cdot\mathcal{A}^\parallel$
$0^+_\cdot\mathcal{A}^\parallel\dagger$	t_3	$-i\sqrt{2}\,k t_3$	0	0
$0^+_\cdot f^\parallel\dagger$	$i\sqrt{2}\,k t_3$	$2k^2 t_3$	0	0
$0^+_\cdot f^\perp\dagger$	0	0	0	0
$0^-_\cdot\mathcal{A}^\parallel\dagger$	0	0	0	$k^2 r_2$

	$1^+_\cdot\mathcal{A}^\parallel{}_{\alpha\beta}$	$1^+_\cdot\mathcal{A}^\perp{}_{\alpha\beta}$	$1^+_\cdot f^\parallel{}_{\alpha\beta}$	$1^-_\cdot\mathcal{A}^\parallel{}_{\alpha}$	$1^-_\cdot\mathcal{A}^\perp{}_{\alpha}$	$1^-_\cdot f^\parallel{}_{\alpha}$	$1^-_\cdot f^\perp{}_{\alpha}$
$1^+_\cdot\mathcal{A}^\parallel\dagger^{\alpha\beta}$	$k^2(2r_3+r_5)$	0	0	0	0	0	0
$1^+_\cdot\mathcal{A}^\perp\dagger^{\alpha\beta}$	0	0	0	0	0	0	0
$1^+_\cdot f^\parallel\dagger^{\alpha\beta}$	0	0	0	0	0	0	0
$1^-_\cdot\mathcal{A}^\parallel\dagger^{\alpha}$	0	0	0	$k^2(\frac{r_3}{2}+r_5)+\frac{2t_3}{3}$	$-\frac{\sqrt{2}\,t_3}{3}$	0	$-\frac{2}{3}ik t_3$
$1^-_\cdot\mathcal{A}^\perp\dagger^{\alpha}$	0	0	0	$-\frac{\sqrt{2}\,t_3}{3}$	$\frac{t_3}{3}$	0	$\frac{1}{3}i\sqrt{2}\,k t_3$
$1^-_\cdot f^\parallel\dagger^{\alpha}$	0	0	0	0	0	0	0
$1^-_\cdot f^\perp\dagger^{\alpha}$	0	0	0	$\frac{2ikt_3}{3}$	$-\frac{1}{3}i\sqrt{2}\,k t_3$	0	$\frac{2k^2 t_3}{3}$

	$2^+_\cdot\mathcal{A}^\parallel{}_{\alpha\beta}$	$2^+_\cdot f^\parallel{}_{\alpha\beta}$	$2^-_\cdot\mathcal{A}^\parallel{}_{\alpha\beta\chi}$
$2^+_\cdot\mathcal{A}^\parallel\dagger^{\alpha\beta}$	$-\frac{3k^2 r_3}{2}$	0	0
$2^+_\cdot f^\parallel\dagger^{\alpha\beta}$	0	0	0
$2^-_\cdot\mathcal{A}^\parallel\dagger^{\alpha\beta\chi}$	0	0	0

Saturated propagator

	$0^+_\cdot\sigma^\parallel$	$0^+_\cdot\tau^\parallel$	$0^+_\cdot\tau^\perp$	$0^-_\cdot\sigma^\parallel$
$0^+_\cdot\sigma^\parallel\dagger$	$\frac{1}{(1+2k^2)^2 t_3}$	$-\frac{i\sqrt{2}\,k}{(1+2k^2)^2 t_3}$	0	0
$0^+_\cdot\tau^\parallel\dagger$	$\frac{i\sqrt{2}\,k}{(1+2k^2)^2 t_3}$	$\frac{2k^2}{(1+2k^2)^2 t_3}$	0	0
$0^+_\cdot\tau^\perp\dagger$	0	0	0	0
$0^-_\cdot\sigma^\parallel\dagger$	0	0	0	$\frac{1}{k^2 r_2}$

	$1^+_\cdot\sigma^\parallel{}_{\alpha\beta}$	$1^+_\cdot\sigma^\perp{}_{\alpha\beta}$	$1^+_\cdot\tau^\parallel{}_{\alpha\beta}$	$1^-_\cdot\sigma^\parallel{}_{\alpha}$	$1^-_\cdot\sigma^\perp{}_{\alpha}$	$1^-_\cdot\tau^\parallel{}_{\alpha}$	$1^-_\cdot\tau^\perp{}_{\alpha}$
$1^+_\cdot\sigma^\parallel\dagger^{\alpha\beta}$	$\frac{1}{k^2(2r_3+r_5)}$	0	0	0	0	0	0
$1^+_\cdot\sigma^\perp\dagger^{\alpha\beta}$	0	0	0	0	0	0	0
$1^+_\cdot\tau^\parallel\dagger^{\alpha\beta}$	0	0	0	0	0	0	0
$1^-_\cdot\sigma^\parallel\dagger^{\alpha}$	0	0	0	$\frac{2}{k^2(r_3+2r_5)}$	$\frac{2\sqrt{2}}{k^2(1+2k^2)(r_3+2r_5)}$	0	$\frac{4i}{k(1+2k^2)(r_3+2r_5)}$
$1^-_\cdot\sigma^\perp\dagger^{\alpha}$	0	0	0	$\frac{2\sqrt{2}}{k^2(1+2k^2)(r_3+2r_5)}$	$\frac{3k^2(r_3+2r_5)+4t_3}{(k+2k^3)^2(r_3+2r_5)t_3}$	0	$\frac{i\sqrt{2}\,(3k^2(r_3+2r_5)+4t_3)}{k(1+2k^2)^2(r_3+2r_5)t_3}$
$1^-_\cdot\tau^\parallel\dagger^{\alpha}$	0	0	0	0	0	0	0
$1^-_\cdot\tau^\perp\dagger^{\alpha}$	0	0	0	$-\frac{4i}{k(1+2k^2)(r_3+2r_5)}$	$-\frac{i\sqrt{2}\,(3k^2(r_3+2r_5)+4t_3)}{k(1+2k^2)^2(r_3+2r_5)t_3}$	0	$\frac{6k^2(r_3+2r_5)+8t_3}{(1+2k^2)^2(r_3+2r_5)t_3}$

	$2^+_\cdot\sigma^\parallel{}_{\alpha\beta}$	$2^+_\cdot\tau^\parallel{}_{\alpha\beta}$	$2^-_\cdot\sigma^\parallel{}_{\alpha\beta\chi}$
$2^+_\cdot\sigma^\parallel\dagger^{\alpha\beta}$	$-\frac{2}{3k^2 r_3}$	0	0
$2^+_\cdot\tau^\parallel\dagger^{\alpha\beta}$	0	0	0
$2^-_\cdot\sigma^\parallel\dagger^{\alpha\beta\chi}$	0	0	0

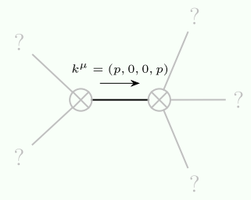
Source constraints

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

Massive spectrum

(No particles)

Massless spectrum



Massless particle

Pole residue:	$-\frac{26}{r_3} + \frac{39}{2r_3+r_5} - \frac{216}{r_3+2r_5} > 0$
Polarisations:	2

Unitarity conditions

$(r_3 < 0\ \&\&\ (r_5 < -\frac{r_3}{2}\ ||\ r_5 > -2r_3)) ||\ (r_3 > 0\ \&\&\ -2r_3 < r_5 < -\frac{r_3}{2})$