PSALTer results panel

$$\mathcal{S} == \int\int\int\int (\frac{1}{6} (6\ \mathcal{A}^{\alpha\beta\chi}\ \sigma_{\alpha\beta\chi} + 6\ f^{\alpha\beta}\ \tau (\Delta+\mathcal{K})_{\alpha\beta} - 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 - 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 - 24 r_{.3} \partial_\beta \mathcal{A}_{\iota\theta\alpha} \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 + 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}) - 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] dt\, dz\, dy\, dx\, dt$$

Wave operator

	$0^+_{.} \mathcal{A}^\parallel$	$0^+_{.} f^\parallel$	$0^+_{.} f^\perp$	$0^-_{.} \mathcal{A}^\parallel$
$0^+_{.} \mathcal{A}^\parallel \dagger$	0	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	$t_{.2}$

	$1^+_{.} \mathcal{A}^\parallel{}_{\alpha\beta}$	$1^+_{.} \mathcal{A}^\perp{}_{\alpha\beta}$	$1^+_{.} f^\parallel{}_{\alpha\beta}$	$1^-_{.} \mathcal{A}^\parallel{}_\alpha$	$1^-_{.} \mathcal{A}^\perp{}_\alpha$	$1^-_{.} f^\parallel{}_\alpha$	$1^-_{.} f^\perp{}_\alpha$
$1^+_{.} \mathcal{A}^\parallel \dagger^{\alpha\beta}$	$k^2 (2 r_{.3} + r_{.5}) + \frac{2 t_{.2}}{3}$	$\frac{\sqrt{2}\ t_{.2}}{3}$	$\frac{1}{3} i \sqrt{2}\ k t_{.2}$	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	$\frac{1}{2} k^2 (r_{.3} + 2 r_{.5})$	0	0	0
$1^-_{.} \mathcal{A}^\perp \dagger^\alpha$	0	0	0	0	0	0	0
$1^-_{.} f^\parallel \dagger^\alpha$	0	0	0	0	0	0	0
$1^-_{.} f^\perp \dagger^\alpha$	0	0	0	0	0	0	0

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

Saturated propagator

	$0^+_{.} \sigma^\parallel$	$0^+_{.} \tau^\parallel$	$0^+_{.} \tau^\perp$	$0^-_{.} \sigma^\parallel$
$0^+_{.} \sigma^\parallel \dagger$	0	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	$\frac{1}{t_{.2}}$

	$1^+_{.} \sigma^\parallel{}_{\alpha\beta}$	$1^+_{.} \sigma^\perp{}_{\alpha\beta}$	$1^+_{.} \tau^\parallel{}_{\alpha\beta}$	$1^-_{.} \sigma^\parallel{}_\alpha$	$1^-_{.} \sigma^\perp{}_\alpha$	$1^-_{.} \tau^\parallel{}_\alpha$	$1^-_{.} \tau^\perp{}_\alpha$
$1^+_{.} \sigma^\parallel \dagger^{\alpha\beta}$	$\frac{1}{k^2 (2 r_{.3} + r_{.5})}$	$-\frac{\sqrt{2}}{k^2 (1+k^2) (2 r_{.3} + r_{.5})}$	$-\frac{i \sqrt{2}}{k (1+k^2) (2 r_{.3} + r_{.5})}$	0	0	0	0
$1^+_{.} \sigma^\perp \dagger^{\alpha\beta}$	$-\frac{\sqrt{2}}{k^2 (1+k^2) (2 r_{.3} + r_{.5})}$	$\frac{3 k^2 (2 r_{.3} + r_{.5}) + 2 t_{.2}}{(k+k^3)^2 (2 r_{.3} + r_{.5}) t_{.2}}$	$\frac{i (3 k^2 (2 r_{.3} + r_{.5}) + 2 t_{.2})}{k (1+k^2)^2 (2 r_{.3} + r_{.5}) t_{.2}}$	0	0	0	0
$1^+_{.} \tau^\parallel \dagger^{\alpha\beta}$	$\frac{i \sqrt{2}}{k (1+k^2) (2 r_{.3} + r_{.5})}$	$-\frac{i (3 k^2 (2 r_{.3} + r_{.5}) + 2 t_{.2})}{k (1+k^2)^2 (2 r_{.3} + r_{.5}) t_{.2}}$	$\frac{3 k^2 (2 r_{.3} + r_{.5}) + 2 t_{.2}}{(1+k^2)^2 (2 r_{.3} + r_{.5}) t_{.2}}$	0	0	0	0
$1^-_{.} \sigma^\parallel \dagger^\alpha$	0	0	0	$\frac{2}{k^2 (r_{.3} + 2 r_{.5})}$	0	0	0
$1^-_{.} \sigma^\perp \dagger^\alpha$	0	0	0	0	0	0	0
$1^-_{.} \tau^\parallel \dagger^\alpha$	0	0	0	0	0	0	0
$1^-_{.} \tau^\perp \dagger^\alpha$	0	0	0	0	0	0	0

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

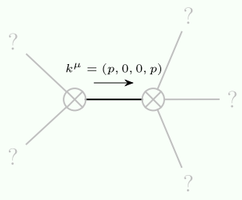
Source constraints

Spin-parity form	Covariant form	Multiplicities
$0^+_{.} \sigma^\parallel == 0$	$\partial_\beta \sigma^\alpha{}_\alpha{}^\beta == 0$	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
$0^+_{.} \tau^\perp == 0$	$\partial_\beta \partial_\alpha \tau (\Delta+\mathcal{K})^{\alpha\beta} == 0$	1
$1^-_{.} \tau^{\perp\alpha} == 0$	$\partial_\chi \partial_\beta \partial^\alpha \tau (\Delta+\mathcal{K})^{\beta\chi} == \partial_\chi \partial^\chi \partial_\beta \tau (\Delta+\mathcal{K})^{\alpha\beta}$	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
$1^-_{.} \sigma^{\perp\alpha} == 0$	$\partial_\chi \partial_\beta \sigma^{\beta\alpha\chi} == 0$	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
$2^-_{.} \sigma^{\parallel\alpha\beta\chi} == 0$	$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:			25

Massive spectrum

(No particles)

Massless spectrum



Massless particle

Pole residue:	$-\frac{2}{r_{.3}} + \frac{7}{2 r_{.3} + r_{.5}} - \frac{24}{r_{.3} + 2 r_{.5}} > 0$
Polarisations:	2

Unitarity conditions

$(r_{.3} < 0 \ \&\&\ (r_{.5} < -\frac{r_{.3}}{2} \ ||\ r_{.5} > -2 r_{.3})) \ ||\ (r_{.3} > 0 \ \&\&\ -2 r_{.3} < r_{.5} < -\frac{r_{.3}}{2})$