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} - 24 r_{\cdot 3} \partial_\beta \mathcal{A}_\iota{}^\theta{}_\theta \partial^\iota \mathcal{A}^{\alpha\beta}{}_\alpha - 24 r_{\cdot 3} \partial_\alpha \mathcal{A}^{\alpha\beta\iota} \partial_\theta \mathcal{A}_\iota{}^\theta{}_\beta + 48 r_{\cdot 3} \partial^\iota \mathcal{A}^{\alpha\beta}{}_\alpha \partial_\theta \mathcal{A}_\iota{}^\theta{}_\beta + 8 r_{\cdot 2} \partial_\beta \mathcal{A}_{\alpha\iota\theta} \partial^\theta \mathcal{A}^{\alpha\beta\iota} - 4 r_{\cdot 2} \partial_\beta \mathcal{A}_{\alpha\theta\iota} \partial^\theta \mathcal{A}^{\alpha\beta\iota} + 4 r_{\cdot 2} \partial_\beta \mathcal{A}_{\iota\theta\alpha} \partial^\theta \mathcal{A}^{\alpha\beta\iota} - 24 r_{\cdot 3} \partial_\beta \mathcal{A}_{\iota\theta\alpha} \partial^\theta \mathcal{A}^{\alpha\beta\iota} - 2 r_{\cdot 2} \partial_\iota \mathcal{A}_{\alpha\beta\theta} \partial^\theta \mathcal{A}^{\alpha\beta\iota} + 2 r_{\cdot 2} \partial_\theta \mathcal{A}_{\alpha\beta\iota} \partial^\theta \mathcal{A}^{\alpha\beta\iota} - 4 r_{\cdot 2} \partial_\theta \mathcal{A}_{\alpha\iota\beta} \partial^\theta \mathcal{A}^{\alpha\beta\iota} + 4 t_{\cdot 2} \mathcal{A}_{\iota\theta\alpha} \partial^\theta f^{\alpha\iota} + 2 t_{\cdot 2} \partial_\alpha f_{\iota\theta} \partial^\theta f^{\alpha\iota} - t_{\cdot 2} \partial_\alpha f_{\theta\iota} \partial^\theta f^{\alpha\iota} - t_{\cdot 2} \partial_\iota f_{\alpha\theta} \partial^\theta f^{\alpha\iota} + t_{\cdot 2} \partial_\theta f_{\alpha\iota} \partial^\theta f^{\alpha\iota} - t_{\cdot 2} \partial_\theta f_{\iota\alpha} \partial^\theta f^{\alpha\iota} - 4 t_{\cdot 2} \mathcal{A}_{\alpha\theta\iota} (\mathcal{A}^{\alpha\iota\theta} + \partial^\theta f^{\alpha\iota}) + 2 t_{\cdot 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

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

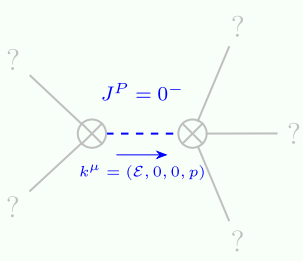
Saturated propagator

	$0^+_\cdot \sigma^\parallel$	$0^+_\cdot \tau^\parallel$	$0^+_\cdot \tau^\perp$	$0^-_\cdot \sigma^\parallel$	$1^+_\cdot \sigma^\parallel{}_{\alpha\beta}$	$1^+_\cdot \sigma^\perp{}_{\alpha\beta}$	$1^+_\cdot \tau^\parallel{}_{\alpha\beta}$	$1^-_\cdot \sigma^\parallel{}_\alpha$	$1^-_\cdot \sigma^\perp{}_\alpha$	$1^-_\cdot \tau^\parallel{}_\alpha$	$1^-_\cdot \tau^\perp{}_\alpha$	$2^+_\cdot \sigma^\parallel{}_{\alpha\beta}$	$2^+_\cdot \tau^\parallel{}_{\alpha\beta}$	$2^-_\cdot \sigma^\parallel{}_{\alpha\beta\chi}$
$0^+_\cdot \sigma^\parallel\,\dagger$	$\frac{1}{6k^2 r_{\cdot 3}}$	0	0	0										
$0^+_\cdot \tau^\parallel\,\dagger$	0	0	0	0										
$0^+_\cdot \tau^\perp\,\dagger$	0	0	0	0										
$0^-_\cdot \sigma^\parallel\,\dagger$	0	0	0	$\frac{1}{k^2 r_{\cdot 2} + t_{\cdot 2}}$										
$1^+_\cdot \sigma^\parallel\,\dagger^{\alpha\beta}$					$\frac{6}{(3+k^2)^2 t_{\cdot 2}}$	$\frac{3\sqrt{2}}{(3+k^2)^2 t_{\cdot 2}}$	$\frac{3 i \sqrt{2}\, k}{(3+k^2)^2 t_{\cdot 2}}$	0	0	0	0			
$1^+_\cdot \sigma^\perp\,\dagger^{\alpha\beta}$					$\frac{3\sqrt{2}}{(3+k^2)^2 t_{\cdot 2}}$	$\frac{3}{(3+k^2)^2 t_{\cdot 2}}$	$\frac{3 i k}{(3+k^2)^2 t_{\cdot 2}}$	0	0	0	0			
$1^+_\cdot \tau^\parallel\,\dagger^{\alpha\beta}$					$-\frac{3 i \sqrt{2}\, k}{(3+k^2)^2 t_{\cdot 2}}$	$-\frac{3 i k}{(3+k^2)^2 t_{\cdot 2}}$	$\frac{3 k^2}{(3+k^2)^2 t_{\cdot 2}}$	0	0	0	0			
$1^-_\cdot \sigma^\parallel\,\dagger^\alpha$					0	0	0	0	0	0	0			
$1^-_\cdot \sigma^\perp\,\dagger^\alpha$					0	0	0	0	0	0	0			
$1^-_\cdot \tau^\parallel\,\dagger^\alpha$					0	0	0	0	0	0	0			
$1^-_\cdot \tau^\perp\,\dagger^\alpha$					0	0	0	0	0	0	0			
$2^+_\cdot \sigma^\parallel\,\dagger^{\alpha\beta}$												0	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
$0^+_\cdot \tau^\parallel == 0$	$\partial_\beta \partial_\alpha \tau(\Delta+\mathcal{K})^{\alpha\beta} == \partial_\beta \partial^\beta \tau(\Delta+\mathcal{K})^\alpha{}_\alpha$	1
$1^-_\cdot \tau^{\perp\alpha} == 0$	$\partial_\chi \partial_\beta \partial^\alpha \tau(\Delta+\mathcal{K})^{\beta\chi} == \partial_\chi \partial^\chi \partial_\beta \tau(\Delta+\mathcal{K})^{\alpha\beta}$	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
$1^-_\cdot \sigma^{\perp\alpha} == 0$	$\partial_\chi \partial_\beta \sigma^{\beta\alpha\chi} == 0$	3
$1^-_\cdot \sigma^{\parallel\alpha} == 0$	$\partial_\delta \partial^\alpha \sigma^\chi{}_\chi{}^\delta + \partial_\delta \partial^\delta \sigma^{\chi\alpha}{}_\chi == \partial_\delta \partial_\chi \sigma^{\chi\alpha\delta}$	3
$i k\, 1^+_\cdot \sigma^{\parallel\alpha\beta} + 1^+_\cdot \tau^{\parallel\alpha\beta} == 0$	$\partial_\chi \partial^\alpha \tau(\Delta+\mathcal{K})^{\beta\chi} + \partial_\chi \partial^\beta \tau(\Delta+\mathcal{K})^{\chi\alpha} + \partial_\chi \partial^\chi \tau(\Delta+\mathcal{K})^{\alpha\beta} + \partial_\delta \partial_\chi \partial^\beta \sigma^{\chi\alpha\delta} + \partial_\delta \partial^\delta \partial_\chi \sigma^{\alpha\beta\chi} == \partial_\chi \partial^\alpha \tau(\Delta+\mathcal{K})^{\chi\beta} + \partial_\chi \partial^\beta \tau(\Delta+\mathcal{K})^{\alpha\chi} + \partial_\chi \partial^\chi \tau(\Delta+\mathcal{K})^{\beta\alpha} + \partial_\delta \partial_\chi \partial^\alpha \sigma^{\chi\beta\delta} + \partial_\delta \partial^\delta \partial_\chi \sigma^{\beta\alpha\chi}$	3
$1^+_\cdot \sigma^{\parallel\alpha\beta} == 1^+_\cdot \sigma^{\perp\alpha\beta}$	$3\, \partial_\delta \partial_\chi \partial^\alpha \sigma^{\chi\beta\delta} + \partial_\delta \partial^\delta \partial_\chi \sigma^{\beta\alpha\chi} + 2\, \partial_\delta \partial^\delta \partial_\chi \sigma^{\chi\alpha\beta} == 3\, \partial_\delta \partial_\chi \partial^\beta \sigma^{\chi\alpha\delta} + \partial_\delta \partial^\delta \partial_\chi \sigma^{\alpha\beta\chi}$	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{}_\delta{}^\beta + 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^\delta \sigma^{\alpha\beta\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
$2^+_\cdot \tau^{\parallel\alpha\beta} == 0$	$4\, \partial_\delta \partial_\chi \partial^\beta \partial^\alpha \tau(\Delta+\mathcal{K})^{\chi\delta} + 2\, \partial_\delta \partial^\delta \partial^\beta \partial^\alpha \tau(\Delta+\mathcal{K})^\chi{}_\chi + 3\, \partial_\delta \partial^\delta \partial_\chi \partial^\chi \tau(\Delta+\mathcal{K})^{\alpha\beta} + 3\, \partial_\delta \partial^\delta \partial_\chi \partial^\chi \tau(\Delta+\mathcal{K})^{\beta\alpha} + 2\, \eta^{\alpha\beta}\, \partial_\epsilon \partial^\epsilon \partial_\delta \partial_\chi \tau(\Delta+\mathcal{K})^{\chi\delta} == 3\, \partial_\delta \partial^\delta \partial_\chi \partial^\alpha \tau(\Delta+\mathcal{K})^{\beta\chi} + 3\, \partial_\delta \partial^\delta \partial_\chi \partial^\alpha \tau(\Delta+\mathcal{K})^{\chi\beta} + 3\, \partial_\delta \partial^\delta \partial_\chi \partial^\beta \tau(\Delta+\mathcal{K})^{\alpha\chi} + 3\, \partial_\delta \partial^\delta \partial_\chi \partial^\beta \tau(\Delta+\mathcal{K})^{\chi\alpha} + 2\, \eta^{\alpha\beta}\, \partial_\epsilon \partial^\epsilon \partial_\delta \partial^\delta \tau(\Delta+\mathcal{K})^\chi{}_\chi$	5
$2^+_\cdot \sigma^{\parallel\alpha\beta} == 0$	$3\, \partial_\delta \partial_\chi \partial^\alpha \sigma^{\chi\beta\delta} + 3\, \partial_\delta \partial_\chi \partial^\beta \sigma^{\chi\alpha\delta} + 2\, \eta^{\alpha\beta}\, \partial_\epsilon \partial^\epsilon \partial_\delta \sigma^\chi{}_\chi{}^\delta == 2\, \partial_\delta \partial^\beta \partial^\alpha \sigma^\chi{}_\chi{}^\delta + 3\, (\partial_\delta \partial^\delta \partial_\chi \sigma^{\alpha\beta\chi} + \partial_\delta \partial^\delta \partial_\chi \sigma^{\beta\alpha\chi})$	5
Total expected gauge generators:		35

Massive spectrum



Massive particle

Pole residue:	$-\frac{1}{r_{\cdot 2}} > 0$
Square mass:	$-\frac{t_{\cdot 2}}{r_{\cdot 2}} > 0$
Spin:	0
Parity:	Odd

Massless spectrum

(No particles)

Unitarity conditions

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