PSALTer results panel

$$S == \int\int\int\int \left(\mathcal{A}^{\alpha\beta\chi}\ \sigma_{\alpha\beta\chi} + f^{\alpha\beta}\ \tau\,(\Delta+\mathcal{K})_{\alpha\beta} + \frac{1}{3}\, r_{\cdot 2} \left(4\,\partial_\beta \mathcal{A}_{\alpha\prime\theta} - 2\,\partial_\beta \mathcal{A}_{\alpha\theta\prime} + 2\,\partial_\beta \mathcal{A}_{\prime\theta\alpha} - \partial_\prime \mathcal{A}_{\alpha\beta\theta} + \partial_\theta \mathcal{A}_{\alpha\beta\prime} - 2\,\partial_\theta \mathcal{A}_{\alpha\prime\beta} \right) \partial^\theta \mathcal{A}^{\alpha\beta\prime} - \frac{1}{2}\, r_{\cdot 3} \left(\partial_\beta \mathcal{A}_{\prime}{}^{\theta}{}_{\theta}\, \partial^\prime \mathcal{A}^{\alpha\beta}{}_{\alpha} + \partial_\prime \mathcal{A}_{\beta}{}^{\theta}{}_{\theta}\, \partial^\prime \mathcal{A}^{\alpha\beta}{}_{\alpha} + \partial_\alpha \mathcal{A}^{\alpha\beta\prime}\, \partial_\theta \mathcal{A}_{\beta}{}^{\theta}{}_{\prime} - 2\,\partial^\prime \mathcal{A}^{\alpha\beta}{}_{\alpha}\, \partial_\theta \mathcal{A}_{\beta}{}^{\theta}{}_{\prime} + \partial_\alpha \mathcal{A}^{\alpha\beta\prime}\, \partial_\theta \mathcal{A}_{\prime}{}^{\theta}{}_{\beta} - 2\,\partial^\prime \mathcal{A}^{\alpha\beta}{}_{\alpha}\, \partial_\theta \mathcal{A}_{\prime}{}^{\theta}{}_{\beta} + 8\,\partial_\beta \mathcal{A}_{\prime\theta\alpha}\, \partial^\theta \mathcal{A}^{\alpha\beta\prime} \right) + r_{\cdot 5} \left(\partial_\prime \mathcal{A}_{\theta}{}^{\kappa}{}_{\kappa}\, \partial^\theta \mathcal{A}^{\alpha\prime}{}_{\alpha} - \partial_\theta \mathcal{A}_{\prime}{}^{\kappa}{}_{\kappa}\, \partial^\theta \mathcal{A}^{\alpha\prime}{}_{\alpha} - \left(\partial_\alpha \mathcal{A}^{\alpha\prime\theta} - 2\,\partial^\theta \mathcal{A}^{\alpha\prime}{}_{\alpha} \right) \left(\partial_\kappa \mathcal{A}_{\prime}{}^{\kappa}{}_{\theta} - \partial_\kappa \mathcal{A}_{\theta}{}^{\kappa}{}_{\prime} \right) \right) \right) [t,\ x,\ y,\ z]\, dz\, dy\, dx\, dt$$

Wave operator

	$0^+_\cdot \mathcal{A}^\parallel$	$0^+_\cdot f^\parallel$	$0^+_\cdot f^\perp$	$0^-_\cdot \mathcal{A}^\parallel$	$1^+_\cdot \mathcal{A}^\parallel{}_{\alpha\beta}$	$1^+_\cdot \mathcal{A}^\perp{}_{\alpha\beta}$	$1^+_\cdot f^\parallel{}_{\alpha\beta}$	$1^-_\cdot \mathcal{A}^\parallel{}_{\alpha}$	$1^-_\cdot \mathcal{A}^\perp{}_{\alpha}$	$1^-_\cdot f^\parallel{}_{\alpha}$	$1^-_\cdot f^\perp{}_{\alpha}$	$2^+_\cdot \mathcal{A}^\parallel{}_{\alpha\beta}$	$2^+_\cdot f^\parallel{}_{\alpha\beta}$	$2^-_\cdot \mathcal{A}^\parallel{}_{\alpha\beta\chi}$
$0^+_\cdot \mathcal{A}^\parallel\,\dagger$	0	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	$k^2\, r_{\cdot 2}$										
$1^+_\cdot \mathcal{A}^\parallel\,\dagger^{\alpha\beta}$					$k^2 \left(2\, r_{\cdot 3} + r_{\cdot 5} \right)$	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	$\frac{1}{2}\, k^2 \left(r_{\cdot 3} + 2\, r_{\cdot 5} \right)$	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			
$2^+_\cdot \mathcal{A}^\parallel\,\dagger^{\alpha\beta}$												$-\frac{3\, k^2\, r_{\cdot 3}}{2}$	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

	$0^+_\cdot \sigma^\parallel$	$0^+_\cdot \tau^\parallel$	$0^+_\cdot \tau^\perp$	$0^-_\cdot \sigma^\parallel$	$1^+_\cdot \sigma^\parallel{}_{\alpha\beta}$	$1^+_\cdot \sigma^\perp{}_{\alpha\beta}$	$1^+_\cdot \tau^\parallel{}_{\alpha\beta}$	$1^-_\cdot \sigma^\parallel{}_{\alpha}$	$1^-_\cdot \sigma^\perp{}_{\alpha}$	$1^-_\cdot \tau^\parallel{}_{\alpha}$	$1^-_\cdot \tau^\perp{}_{\alpha}$	$2^+_\cdot \sigma^\parallel{}_{\alpha\beta}$	$2^+_\cdot \tau^\parallel{}_{\alpha\beta}$	$2^-_\cdot \sigma^\parallel{}_{\alpha\beta\chi}$
$0^+_\cdot \sigma^\parallel\,\dagger$	0	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	$\frac{1}{k^2\, r_{\cdot 2}}$										
$1^+_\cdot \sigma^\parallel\,\dagger^{\alpha\beta}$					$\frac{1}{k^2 \left(2\, r_{\cdot 3} + r_{\cdot 5} \right)}$	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	$\frac{2}{k^2 \left(r_{\cdot 3} + 2\, r_{\cdot 5} \right)}$	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			
$2^+_\cdot \sigma^\parallel\,\dagger^{\alpha\beta}$												$-\frac{2}{3\, k^2\, r_{\cdot 3}}$	0	0
$2^+_\cdot \tau^\parallel\,\dagger^{\alpha\beta}$												0	0	0
$2^-_\cdot \sigma^\parallel\,\dagger^{\alpha\beta\chi}$												0	0	0

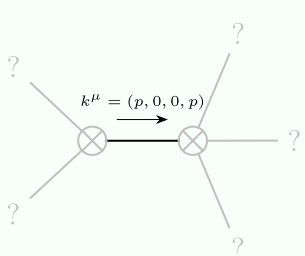
Source constraints

Spin-parity form	Covariant form	Multiplicities
$0^+_\cdot \tau^\perp == 0$	$\partial_\beta \partial_\alpha \tau\,(\Delta+\mathcal{K})^{\alpha\beta} == 0$	1
$0^+_\cdot \tau^\parallel == 0$	$\partial_\beta \partial_\alpha \tau\,(\Delta+\mathcal{K})^{\alpha\beta} == \partial_\beta \partial^\beta \tau\,(\Delta+\mathcal{K})^{\alpha}{}_{\alpha}$	1
$0^+_\cdot \sigma^\parallel == 0$	$\partial_\beta \sigma^{\alpha}{}_{\alpha}{}^{\beta} == 0$	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
$1^+_\cdot \tau^\parallel{}^{\alpha\beta} == 0$	$\partial_\chi \partial^\alpha \tau\,(\Delta+\mathcal{K})^{\beta\chi} + \partial_\chi \partial^\beta \tau\,(\Delta+\mathcal{K})^{\chi\alpha} + \partial_\chi \partial^\chi \tau\,(\Delta+\mathcal{K})^{\alpha\beta} == \partial_\chi \partial^\alpha \tau\,(\Delta+\mathcal{K})^{\chi\beta} + \partial_\chi \partial^\beta \tau\,(\Delta+\mathcal{K})^{\alpha\chi} + \partial_\chi \partial^\chi \tau\,(\Delta+\mathcal{K})^{\beta\alpha}$	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^{\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^\delta \sigma^{\alpha\chi\beta} + 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\chi\alpha} + 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
Total expected gauge generators:		28

Massive spectrum

(No particles)

Massless spectrum



Massless particle

Pole residue:	$-\frac{2}{r_{\cdot 3}} + \frac{3}{2\, r_{\cdot 3} + r_{\cdot 5}} - \frac{16}{r_{\cdot 3} + 2\, r_{\cdot 5}} > 0$
Polarisations:	2

Unitarity conditions

$$\left(r_{\cdot 3} < 0\ \&\&\ \left(r_{\cdot 5} < -\frac{r_{\cdot 3}}{2}\ ||\ r_{\cdot 5} > -2\, r_{\cdot 3} \right) \right) ||\ \left(r_{\cdot 3} > 0\ \&\&\ -2\, r_{\cdot 3} < r_{\cdot 5} < -\frac{r_{\cdot 3}}{2} \right)$$