PSALTer results panel

$$\mathcal{S} == \iiiint \Big(\mathcal{A}^{\alpha\beta\chi}\ \sigma_{\alpha\beta\chi} + f^{\alpha\beta}\ \tau(\Delta+\mathcal{K})_{\alpha\beta} - \frac{1}{2} r_3 \big(\partial_\beta \mathcal{A}_{\iota}{}^{\theta}{}_{\theta} \partial^{\iota} \mathcal{A}^{\alpha\beta}{}_{\alpha} + \partial_{\iota} \mathcal{A}_{\beta}{}^{\theta}{}_{\theta} \partial^{\iota} \mathcal{A}^{\alpha\beta}{}_{\alpha} + \partial_\alpha \mathcal{A}^{\alpha\beta\iota} \partial_\theta \mathcal{A}_{\beta}{}^{\theta}{}_{\iota} - 2\, \partial^{\iota} \mathcal{A}^{\alpha\beta}{}_{\alpha} \partial_\theta \mathcal{A}_{\beta}{}^{\theta}{}_{\iota} + \partial_\alpha \mathcal{A}^{\alpha\beta\iota} \partial_\theta \mathcal{A}_{\iota}{}^{\theta}{}_{\beta} - 2\, \partial^{\iota} \mathcal{A}^{\alpha\beta}{}_{\alpha} \partial_\theta \mathcal{A}_{\iota}{}^{\theta}{}_{\beta} + 8\, \partial_\beta \mathcal{A}_{\iota\theta\alpha} \partial^{\theta} \mathcal{A}^{\alpha\beta\iota}\big) + r_5 \big(\partial_{\iota} \mathcal{A}_{\theta}{}^{\kappa}{}_{\kappa} \partial^{\theta} \mathcal{A}^{\alpha\iota}{}_{\alpha} - \partial_\theta \mathcal{A}_{\iota}{}^{\kappa}{}_{\kappa} \partial^{\theta} \mathcal{A}^{\alpha\iota}{}_{\alpha} - (\partial_\alpha \mathcal{A}^{\alpha\iota\theta} - 2\, \partial^{\theta} \mathcal{A}^{\alpha\iota}{}_{\alpha}) (\partial_\kappa \mathcal{A}_{\iota}{}^{\kappa}{}_{\theta} - \partial_\kappa \mathcal{A}_{\theta}{}^{\kappa}{}_{\iota})\big)\Big)[t, x, y, z]\, dz\, dy\, dx\, dt$$

Wave operator

	$0^{+}\mathcal{A}^{\parallel}$	$0^{+}f^{\parallel}$	$0^{+}f^{\perp}$	$0^{-}\mathcal{A}^{\parallel}$
$0^{+}\mathcal{A}^{\parallel}\dagger$	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	0

	$1^{+}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$1^{+}\mathcal{A}^{\perp}{}_{\alpha\beta}$	$1^{+}f^{\parallel}{}_{\alpha\beta}$	$1^{-}\mathcal{A}^{\parallel}{}_{\alpha}$	$1^{-}\mathcal{A}^{\perp}{}_{\alpha}$	$1^{-}f^{\parallel}{}_{\alpha}$	$1^{-}f^{\perp}{}_{\alpha}$
$1^{+}\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$k^2 (2 r_3 + r_5)$	0	0	0	0	0	0
$1^{+}\mathcal{A}^{\perp}\dagger^{\alpha\beta}$	0	0	0	0	0	0	0
$1^{+}f^{\parallel}\dagger^{\alpha\beta}$	0	0	0	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	0

	$1^{+}\sigma^{\parallel}{}_{\alpha\beta}$	$1^{+}\sigma^{\perp}{}_{\alpha\beta}$	$1^{+}\tau^{\parallel}{}_{\alpha\beta}$	$1^{-}\sigma^{\parallel}{}_{\alpha}$	$1^{-}\sigma^{\perp}{}_{\alpha}$	$1^{-}\tau^{\parallel}{}_{\alpha}$	$1^{-}\tau^{\perp}{}_{\alpha}$
$1^{+}\sigma^{\parallel}\dagger^{\alpha\beta}$	$\frac{1}{k^2 (2 r_3 + r_5)}$	0	0	0	0	0	0
$1^{+}\sigma^{\perp}\dagger^{\alpha\beta}$	0	0	0	0	0	0	0
$1^{+}\tau^{\parallel}\dagger^{\alpha\beta}$	0	0	0	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

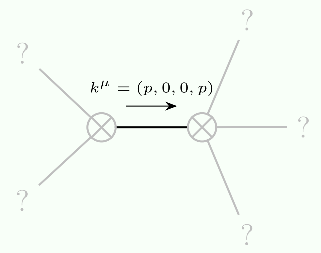
Source constraints

Spin-parity form	Covariant form	Multiplicities
$0^{-}\sigma^{\parallel} == 0$	$\epsilon\eta_{\alpha\beta\chi\delta}\, \partial^{\delta}\sigma^{\alpha\beta\chi} == 0$	1
$0^{+}\tau^{\perp} == 0$	$\partial_\beta\partial_\alpha \tau(\Delta+\mathcal{K})^{\alpha\beta} == 0$	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
$0^{+}\sigma^{\parallel} == 0$	$\partial_\beta \sigma^{\alpha}{}_{\alpha}{}^{\beta} == 0$	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
$1^{+}\tau^{\parallel\alpha\beta} == 0$	$\partial_\chi\partial^\alpha \tau(\Delta+\mathcal{K})^{\beta\chi} + \partial_\chi\partial^\beta \tau(\Delta+\mathcal{K})^{\chi\alpha} + \partial_\chi\partial^\chi \tau(\Delta+\mathcal{K})^{\alpha\beta} == \partial_\chi\partial^\alpha \tau(\Delta+\mathcal{K})^{\chi\beta} + \partial_\chi\partial^\beta \tau(\Delta+\mathcal{K})^{\alpha\chi} + \partial_\chi\partial^\chi \tau(\Delta+\mathcal{K})^{\beta\alpha}$	3
$1^{+}\sigma^{\perp\alpha\beta} == 0$	$\partial_\delta\partial_\chi\partial^\alpha \sigma^{\chi\beta\delta} + \partial_\delta\partial^\delta\partial_\chi \sigma^{\chi\alpha\beta} == \partial_\delta\partial_\chi\partial^\beta \sigma^{\chi\alpha\delta}$	3
$2^{-}\sigma^{\parallel\alpha\beta\chi} == 0$	$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:		29

Massive spectrum

(No particles)

Massless spectrum



Massless particle

Pole residue:	$-\frac{2}{r_3} + \frac{3}{2 r_3 + r_5} - \frac{16}{r_3 + 2 r_5} > 0$
Polarisations:	2

Unitarity conditions

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