PSALTer results panel

$$\mathcal{S} == \int\int\int\int (\frac{1}{3}(-2t_{.3}\,\mathcal{A}^{\alpha\imath}{}_{\alpha}\,\mathcal{A}_{\imath}{}^{\theta}{}_{\theta} + 3\,\mathcal{A}^{\alpha\beta\chi}\,\sigma_{\alpha\beta\chi} + 3\,f^{\alpha\beta}\,\tau(\Delta+\mathcal{K})_{\alpha\beta} + 4t_{.3}\,\mathcal{A}_{\alpha}{}^{\theta}{}_{\theta}\,\partial_{\imath}f^{\alpha\imath} - 4t_{.3}\,\mathcal{A}_{\imath}{}^{\theta}{}_{\theta}\,\partial^{\imath}f^{\alpha}{}_{\alpha} + 2t_{.3}\,\partial_{\imath}f^{\theta}{}_{\theta}\partial^{\imath}f^{\alpha}{}_{\alpha} + 2t_{.3}\,\partial_{\imath}f^{\alpha\imath}\partial_{\theta}f_{\alpha}{}^{\theta} - 4 t_{.3}\,\partial^{\imath}f^{\alpha}{}_{\alpha}\partial_{\theta}f_{\imath}{}^{\theta} - 4r_{.1}\,\partial_{\beta}\mathcal{A}_{\alpha\imath\theta}\partial^{\theta}\mathcal{A}^{\alpha\beta\imath} + 2r_{.1}\,\partial_{\beta}\mathcal{A}_{\alpha\theta\imath}\partial^{\theta}\mathcal{A}^{\alpha\beta\imath} - 8r_{.1}\,\partial_{\beta}\mathcal{A}_{\imath\theta\alpha}\partial^{\theta}\mathcal{A}^{\alpha\beta\imath} - 2r_{.1}\,\partial_{\imath}\mathcal{A}_{\alpha\beta\theta}\partial^{\theta}\mathcal{A}^{\alpha\beta\imath} + 2r_{.1}\,\partial_{\theta}\mathcal{A}_{\alpha\beta\imath}\partial^{\theta}\mathcal{A}^{\alpha\beta\imath} + 2r_{.1}\,\partial_{\theta}\mathcal{A}_{\alpha\imath\beta}\partial^{\theta}\mathcal{A}^{\alpha\beta\imath} + 3r_{.5}\,\partial_{\imath}\mathcal{A}_{\theta}{}^{\kappa}{}_{\kappa}\partial^{\theta}\mathcal{A}^{\alpha\imath}{}_{\alpha} - 3r_{.5}\,\partial_{\theta}\mathcal{A}_{\imath}{}^{\kappa}{}_{\kappa}\partial^{\theta}\mathcal{A}^{\alpha\imath}{}_{\alpha} - 3r_{.5}\,\partial_{\alpha}\mathcal{A}^{\alpha\imath\theta}\partial_{\kappa}\mathcal{A}_{\imath}{}^{\kappa}{}_{\theta} + 6r_{.5}\,\partial^{\theta}\mathcal{A}^{\alpha\imath}{}_{\alpha}\partial_{\kappa}\mathcal{A}_{\imath}{}^{\kappa}{}_{\theta} + 3r_{.5}\,\partial_{\alpha}\mathcal{A}^{\alpha\imath\theta}\partial_{\kappa}\mathcal{A}_{\theta}{}^{\kappa}{}_{\imath} - 6r_{.5}\,\partial^{\theta}\mathcal{A}^{\alpha\imath}{}_{\alpha}\partial_{\kappa}\mathcal{A}_{\theta}{}^{\kappa}{}_{\imath}))[t, x, y, z]\,dz\,dy\,dx\,dt$$

Wave operator

	$0^+_{.}\mathcal{A}^{\parallel}$	$0^+_{.}f^{\parallel}$	$0^+_{.}f^{\perp}$	$0^-_{.}\mathcal{A}^{\parallel}$
$0^+_{.}\mathcal{A}^{\parallel}\,\dagger$	$t_{.3}$	$-i\sqrt{2}\,k t_{.3}$	0	0
$0^+_{.}f^{\parallel}\,\dagger$	$i\sqrt{2}\,k t_{.3}$	$2k^2 t_{.3}$	0	0
$0^+_{.}f^{\perp}\,\dagger$	0	0	0	0
$0^-_{.}\mathcal{A}^{\parallel}\,\dagger$	0	0	0	0

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

	$2^+_{.}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$2^+_{.}f^{\parallel}{}_{\alpha\beta}$	$2^-_{.}\mathcal{A}^{\parallel}{}_{\alpha\beta\chi}$
$2^+_{.}\mathcal{A}^{\parallel}\,\dagger^{\alpha\beta}$	0	0	0
$2^+_{.}f^{\parallel}\,\dagger^{\alpha\beta}$	0	0	0
$2^-_{.}\mathcal{A}^{\parallel}\,\dagger^{\alpha\beta\chi}$	0	0	$k^2 r_{.1}$

Saturated propagator

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

	$1^+_{.}\sigma^{\parallel}{}_{\alpha\beta}$	$1^+_{.}\sigma^{\perp}{}_{\alpha\beta}$	$1^+_{.}\tau^{\parallel}{}_{\alpha\beta}$	$1^-_{.}\sigma^{\parallel}{}_{\alpha}$	$1^-_{.}\sigma^{\perp}{}_{\alpha}$	$1^-_{.}\tau^{\parallel}{}_{\alpha}$	$1^-_{.}\tau^{\perp}{}_{\alpha}$
$1^+_{.}\sigma^{\parallel}\,\dagger^{\alpha\beta}$	$\frac{1}{k^2(2r_{.1}+r_{.5})}$	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	$\frac{1}{k^2(r_{.1}+r_{.5})}$	$\frac{\sqrt{2}}{k^2(1+2k^2)(r_{.1}+r_{.5})}$	0	$\frac{2i}{k(1+2k^2)(r_{.1}+r_{.5})}$
$1^-_{.}\sigma^{\perp}\,\dagger^{\alpha}$	0	0	0	$\frac{\sqrt{2}}{k^2(1+2k^2)(r_{.1}+r_{.5})}$	$\frac{3k^2(r_{.1}+r_{.5})+2t_{.3}}{(k+2k^3)^2(r_{.1}+r_{.5})t_{.3}}$	0	$\frac{i\sqrt{2}\,(3k^2(r_{.1}+r_{.5})+2t_{.3})}{k(1+2k^2)^2(r_{.1}+r_{.5})t_{.3}}$
$1^-_{.}\tau^{\parallel}\,\dagger^{\alpha}$	0	0	0	0	0	0	0
$1^-_{.}\tau^{\perp}\,\dagger^{\alpha}$	0	0	0	$-\frac{2i}{k(1+2k^2)(r_{.1}+r_{.5})}$	$-\frac{i\sqrt{2}\,(3k^2(r_{.1}+r_{.5})+2t_{.3})}{k(1+2k^2)^2(r_{.1}+r_{.5})t_{.3}}$	0	$\frac{6k^2(r_{.1}+r_{.5})+4t_{.3}}{(1+2k^2)^2(r_{.1}+r_{.5})t_{.3}}$

	$2^+_{.}\sigma^{\parallel}{}_{\alpha\beta}$	$2^+_{.}\tau^{\parallel}{}_{\alpha\beta}$	$2^-_{.}\sigma^{\parallel}{}_{\alpha\beta\chi}$
$2^+_{.}\sigma^{\parallel}\,\dagger^{\alpha\beta}$	0	0	0
$2^+_{.}\tau^{\parallel}\,\dagger^{\alpha\beta}$	0	0	0
$2^-_{.}\sigma^{\parallel}\,\dagger^{\alpha\beta\chi}$	0	0	$\frac{1}{k^2 r_{.1}}$

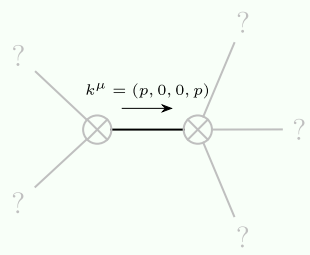
Source constraints

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
$-2ik\,0^+_{.}\sigma^{\parallel} + 0^+_{.}\tau^{\parallel} == 0$	$\partial_{\beta}\partial_{\alpha}\tau(\Delta+\mathcal{K})^{\alpha\beta} == \partial_{\beta}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha}{}_{\alpha} + 2\,\partial_{\chi}\partial^{\chi}\partial_{\beta}\sigma^{\alpha}{}_{\alpha}{}^{\beta}$	1
$2ik\,1^-_{.}\sigma^{\perp\alpha} + 1^-_{.}\tau^{\perp\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau(\Delta+\mathcal{K})^{\alpha\beta} + 2\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi}$	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
$1^+_{.}\tau^{\parallel\alpha\beta} == 0$	$\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} + \partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\chi\alpha} + \partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\alpha\beta} == \partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\beta} + \partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha\chi} + \partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\beta\alpha}$	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
$2^+_{.}\tau^{\parallel\alpha\beta} == 0$	$4\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\delta} + 2\,\partial_{\delta}\partial^{\delta}\partial^{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi}{}_{\chi} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\alpha\beta} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\chi\alpha} + 2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\tau(\Delta+\mathcal{K})^{\chi\delta} == 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\chi\alpha} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\beta} + 2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\tau(\Delta+\mathcal{K})^{\chi}{}_{\chi}$	5
$2^+_{.}\sigma^{\parallel\alpha\beta} == 0$	$3\,\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta} + 3\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta} + 2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\sigma^{\chi}{}_{\chi}{}^{\delta} == 2\,\partial_{\delta}\partial^{\beta}\partial^{\alpha}\sigma^{\chi}{}_{\chi}{}^{\delta} + 3\,(\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\alpha\beta\chi} + \partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\beta\alpha\chi})$	5
Total expected gauge generators:		25

Massive spectrum

(No particles)

Massless spectrum



Massless particle

Pole residue:	$-\frac{3}{r_{.1}} - \frac{4}{r_{.1}+r_{.5}} + \frac{9}{2r_{.1}+r_{.5}} > 0$
Polarisations:	2

Unitarity conditions

$(r_{.1} < 0\ \&\&\ (r_{.5} < -r_{.1}\ ||\ r_{.5} > -2r_{.1}))\ ||\ (r_{.1} > 0\ \&\&\ -2r_{.1} < r_{.5} < -r_{.1})$