PSALTer results panel

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

Wave operator

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

Saturated propagator

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

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