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} - 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\prime}\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\prime}\partial_{\theta}\mathcal{A}_{\iota}{}^{\theta}{}_{\beta} - 2\partial^{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha}\partial_{\theta}\mathcal{A}_{\iota}{}^{\theta}{}_{\beta} + 2\partial_{\beta}\mathcal{A}_{\iota\theta\alpha}\partial^{\theta}\mathcal{A}^{\alpha\beta\prime}) + \frac{2}{3} r_{1} (3\partial_{\beta}\mathcal{A}_{\iota}{}^{\theta}{}_{\theta}\partial^{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha} + 3\partial_{\iota}\mathcal{A}_{\beta}{}^{\theta}{}_{\theta}\partial^{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha} + 3\partial_{\alpha}\mathcal{A}^{\alpha\beta\prime}\partial_{\theta}\mathcal{A}_{\beta}{}^{\theta}{}_{\iota} - 6\partial^{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha}\partial_{\theta}\mathcal{A}_{\beta}{}^{\theta}{}_{\iota} + 3\partial_{\alpha}\mathcal{A}^{\alpha\beta\prime}\partial_{\theta}\mathcal{A}_{\iota}{}^{\theta}{}_{\beta} - 6\partial^{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha}\partial_{\theta}\mathcal{A}_{\iota}{}^{\theta}{}_{\beta} - 2\partial_{\beta}\mathcal{A}_{\alpha\iota\theta}\partial^{\theta}\mathcal{A}^{\alpha\beta\prime} + \partial_{\beta}\mathcal{A}_{\alpha\theta\iota}\partial^{\theta}\mathcal{A}^{\alpha\beta\prime} + 2\partial_{\beta}\mathcal{A}_{\iota\theta\alpha}\partial^{\theta}\mathcal{A}^{\alpha\beta\prime} - \partial_{\iota}\mathcal{A}_{\alpha\beta\theta}\partial^{\theta}\mathcal{A}^{\alpha\beta\prime} + \partial_{\theta}\mathcal{A}_{\alpha\beta\iota}\partial^{\theta}\mathcal{A}^{\alpha\beta\prime} + \partial_{\theta}\mathcal{A}_{\alpha\iota\beta}\partial^{\theta}\mathcal{A}^{\alpha\beta\prime}) + 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\prime}{}_{\alpha} - (\partial_{\alpha}\mathcal{A}^{\alpha\iota\theta} - 2\partial^{\theta}\mathcal{A}^{\alpha\prime}{}_{\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

	$0^+_.\mathcal{A}^{\parallel}$	$0^+_.f^{\parallel}$	$0^+_.f^{\perp}$	$0^-_.\mathcal{A}^{\parallel}$
$0^+_.\mathcal{A}^{\parallel}\dagger$	$6k^2(-r_1+r_3)$	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

	$1^+_.\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$1^+_.\mathcal{A}^{\perp}{}_{\alpha\beta}$	$1^+_.f^{\parallel}{}_{\alpha\beta}$	$1^-_.\mathcal{A}^{\parallel}{}_{\alpha}$	$1^-_.\mathcal{A}^{\perp}{}_{\alpha}$	$1^-_.f^{\parallel}{}_{\alpha}$	$1^-_.f^{\perp}{}_{\alpha}$
$1^+_.\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$k^2(2r_3+r_5)$	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	$k^2(-r_1+2r_3+r_5)$	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

	$2^+_.\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$2^+_.f^{\parallel}{}_{\alpha\beta}$	$2^-_.\mathcal{A}^{\parallel}{}_{\alpha\beta\chi}$
$2^+_.\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	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

	$0^+_.\sigma^{\parallel}$	$0^+_.\tau^{\parallel}$	$0^+_.\tau^{\perp}$	$0^-_.\sigma^{\parallel}$
$0^+_.\sigma^{\parallel}\dagger$	$\frac{1}{6k^2(-r_1+r_3)}$	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

	$1^+_.\sigma^{\parallel}{}_{\alpha\beta}$	$1^+_.\sigma^{\perp}{}_{\alpha\beta}$	$1^+_.\tau^{\parallel}{}_{\alpha\beta}$	$1^-_.\sigma^{\parallel}{}_{\alpha}$	$1^-_.\sigma^{\perp}{}_{\alpha}$	$1^-_.\tau^{\parallel}{}_{\alpha}$	$1^-_.\tau^{\perp}{}_{\alpha}$
$1^+_.\sigma^{\parallel}\dagger^{\alpha\beta}$	$\frac{1}{k^2(2r_3+r_5)}$	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	$\frac{1}{k^2(-r_1+2r_3+r_5)}$	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

	$2^+_.\sigma^{\parallel}{}_{\alpha\beta}$	$2^+_.\tau^{\parallel}{}_{\alpha\beta}$	$2^-_.\sigma^{\parallel}{}_{\alpha\beta\chi}$
$2^+_.\sigma^{\parallel}\dagger^{\alpha\beta}$	0	0	0
$2^+_.\tau^{\parallel}\dagger^{\alpha\beta}$	0	0	0
$2^-_.\sigma^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	$\frac{1}{k^2 r_1}$

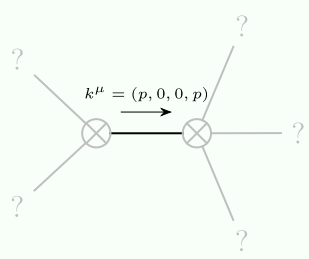
Source constraints

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
$0^+_.\tau^{\parallel} == 0$	$\partial_{\beta}\partial_{\alpha}\tau(\Delta+\mathcal{K})^{\alpha\beta} == \partial_{\beta}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha}{}_{\alpha}$	1
$1^-_.\tau^{\perp\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau(\Delta+\mathcal{K})^{\alpha\beta}$	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
$2^+_.\tau^{\parallel\alpha\beta} == 0$	$4\partial_{\delta}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\delta} + 2\partial_{\delta}\partial^{\delta}\partial^{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi}{}_{\chi} + 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\alpha\beta} + 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\beta\alpha} + 2\eta^{\alpha\beta}\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\tau(\Delta+\mathcal{K})^{\chi\delta} == 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} + 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\beta} + 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha\chi} + 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\chi\alpha} + 2\eta^{\alpha\beta}\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\tau(\Delta+\mathcal{K})^{\chi}{}_{\chi}$	5
$2^+_.\sigma^{\parallel\alpha\beta} == 0$	$3\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta} + 3\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta} + 2\eta^{\alpha\beta}\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\sigma^{\chi}{}_{\chi}{}^{\delta} == 2\partial_{\delta}\partial^{\beta}\partial^{\alpha}\sigma^{\chi}{}_{\chi}{}^{\delta} + 3(\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\alpha\beta\chi} + \partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\beta\alpha\chi})$	5
Total expected gauge generators:		28

Massive spectrum

(No particles)

Massless spectrum



Massless particle

Pole residue:	$-\frac{3}{r_1} + \frac{3}{r_1 - 2r_3 - r_5} + \frac{8}{2r_3 + r_5} > 0$
Polarisations:	2

Unitarity conditions

$r_3 \in \mathbb{R}$ && $((r_5 < -2r_3$ && $2r_3 + r_5 < r_1 < 0)$ || $(r_5 > -2r_3$ && $(r_1 < 0$ || $r_1 > 2r_3 + r_5)))$