PSALTer results panel

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

Wave operator

	$\overset{0^+}{\cdot}\mathcal{A}^{\parallel}$	$\overset{0^+}{\cdot}f^{\parallel}$	$\overset{0^+}{\cdot}f^{\perp}$	$\overset{0^-}{\cdot}\mathcal{A}^{\parallel}$
$\overset{0^+}{\cdot}\mathcal{A}^{\parallel}\,\dagger$	$6\,k^2\left(-r_{1} + r_{3}\right)$	0	0	0
$\overset{0^+}{\cdot}f^{\parallel}\,\dagger$	0	0	0	0
$\overset{0^+}{\cdot}f^{\perp}\,\dagger$	0	0	0	0
$\overset{0^-}{\cdot}\mathcal{A}^{\parallel}\,\dagger$	0	0	0	0

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

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

Saturated propagator

	$\overset{0^+}{\cdot}\sigma^{\parallel}$	$\overset{0^+}{\cdot}\tau^{\parallel}$	$\overset{0^+}{\cdot}\tau^{\perp}$	$\overset{0^-}{\cdot}\sigma^{\parallel}$
$\overset{0^+}{\cdot}\sigma^{\parallel}\,\dagger$	$\frac{1}{6\,k^2\left(-r_{1}+r_{3}\right)}$	0	0	0
$\overset{0^+}{\cdot}\tau^{\parallel}\,\dagger$	0	0	0	0
$\overset{0^+}{\cdot}\tau^{\perp}\,\dagger$	0	0	0	0
$\overset{0^-}{\cdot}\sigma^{\parallel}\,\dagger$	0	0	0	0

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

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

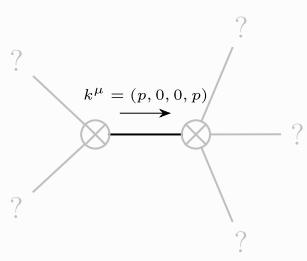
Source constraints

Spin-parity form	Covariant form	Multiplicities
$\overset{0^-}{\cdot}\sigma^{\parallel} == 0$	$\epsilon\eta_{\alpha\beta\chi\delta}\,\partial^{\delta}\sigma^{\alpha\beta\chi} == 0$	1
$\overset{0^+}{\cdot}\tau^{\perp} == 0$	$\partial_{\beta}\partial_{\alpha}\tau_{(\Delta+\mathcal{K})}{}^{\alpha\beta} == 0$	1
$\overset{0^+}{\cdot}\tau^{\parallel} == 0$	$\partial_{\beta}\partial_{\alpha}\tau_{(\Delta+\mathcal{K})}{}^{\alpha\beta} == \partial_{\beta}\partial^{\beta}\tau_{(\Delta+\mathcal{K})}{}^{\alpha}{}_{\alpha}$	1
$\overset{1^-}{\cdot}\tau^{\perp\,\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau_{(\Delta+\mathcal{K})}{}^{\beta\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau_{(\Delta+\mathcal{K})}{}^{\alpha\beta}$	3
$\overset{1^-}{\cdot}\tau^{\parallel\,\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau_{(\Delta+\mathcal{K})}{}^{\beta\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau_{(\Delta+\mathcal{K})}{}^{\beta\alpha}$	3
$\overset{1^-}{\cdot}\sigma^{\perp\,\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi} == 0$	3
$\overset{1^+}{\cdot}\tau^{\parallel\,\alpha\beta} == 0$	$\partial_{\chi}\partial^{\alpha}\tau_{(\Delta+\mathcal{K})}{}^{\beta\chi} + \partial_{\chi}\partial^{\beta}\tau_{(\Delta+\mathcal{K})}{}^{\chi\alpha} + \partial_{\chi}\partial^{\chi}\tau_{(\Delta+\mathcal{K})}{}^{\alpha\beta} == \partial_{\chi}\partial^{\alpha}\tau_{(\Delta+\mathcal{K})}{}^{\chi\beta} + \partial_{\chi}\partial^{\beta}\tau_{(\Delta+\mathcal{K})}{}^{\alpha\chi} + \partial_{\chi}\partial^{\chi}\tau_{(\Delta+\mathcal{K})}{}^{\beta\alpha}$	3
$\overset{1^+}{\cdot}\sigma^{\perp\,\alpha\beta} == 0$	$\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta} + \partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\chi\alpha\beta} == \partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta}$	3
$\overset{2^+}{\cdot}\tau^{\parallel\,\alpha\beta} == 0$	$4\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\tau_{(\Delta+\mathcal{K})}{}^{\chi\delta} + 2\,\partial_{\delta}\partial^{\delta}\partial^{\beta}\partial^{\alpha}\tau_{(\Delta+\mathcal{K})}{}^{\chi}{}_{\chi} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau_{(\Delta+\mathcal{K})}{}^{\alpha\beta} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau_{(\Delta+\mathcal{K})}{}^{\beta\alpha} + 2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\tau_{(\Delta+\mathcal{K})}{}^{\chi\delta} == 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau_{(\Delta+\mathcal{K})}{}^{\beta\chi} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau_{(\Delta+\mathcal{K})}{}^{\chi\beta} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau_{(\Delta+\mathcal{K})}{}^{\alpha\chi} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau_{(\Delta+\mathcal{K})}{}^{\chi\alpha} + 2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\tau_{(\Delta+\mathcal{K})}{}^{\chi}{}_{\chi}$	5
$\overset{2^+}{\cdot}\sigma^{\parallel\,\alpha\beta} == 0$	$3\,\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta} + 3\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta} + 2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\sigma^{\chi}{}_{\chi}{}^{\delta} == 2\,\partial_{\delta}\partial^{\beta}\partial^{\alpha}\sigma^{\chi}{}_{\chi}{}^{\delta} + 3\left(\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\alpha\beta\chi} + \partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\beta\alpha\chi}\right)$	5
Total expected gauge generators:		28

Massive spectrum

(There are no massive particles)

Massless spectrum



Massless particle

Pole residue:	$-\frac{3}{r_{1}} + \frac{3}{r_{1}-2\,r_{3}-r_{5}} + \frac{8}{2\,r_{3}+r_{5}} > 0$
Polarisations:	2

Gauge symmetries

(Not yet implemented in PSALTer)

Unitarity conditions

$$r_{3} \in \mathbb{R}\ \&\&\ \Big(\Big(r_{5} < -2\,r_{3}\ \&\&\ 2\,r_{3} + r_{5} < r_{1} < 0\Big) \,||\, \Big(r_{5} > -2\,r_{3}\ \&\&\ \Big(r_{1} < 0 \,||\, r_{1} > 2\,r_{3} + r_{5}\Big)\Big)\Big)$$

Validity assumptions

(Not yet implemented in PSALTer)