PSALTer results panel

$$S == \int\int\int\int \left(\mathcal{A}^{\alpha\beta\chi}\ \sigma_{\alpha\beta\chi} + f^{\alpha\beta}\ \tau\,(\Delta+\mathcal{K})_{\alpha\beta} - \frac{1}{2}\,\alpha_{0}\,\left(\mathcal{A}_{\alpha\chi\beta}\ \mathcal{A}^{\alpha\beta\chi} + \mathcal{A}^{\alpha\beta}{}_{\alpha}\ \mathcal{A}_{\beta}{}^{\chi}{}_{\chi} + 2\ f^{\alpha\beta}\ \partial_{\beta}\mathcal{A}_{\alpha}{}^{\chi}{}_{\chi} - 2\ \partial_{\beta}\mathcal{A}^{\alpha\beta}{}_{\alpha} - 2\ f^{\alpha\beta}\ \partial_{\chi}\mathcal{A}_{\alpha}{}^{\chi}{}_{\beta} + 2\ f^{\alpha}{}_{\alpha}\ \partial_{\chi}\mathcal{A}^{\beta\chi}{}_{\beta} \right) - \alpha_{1}\,\left(\partial_{\chi}\mathcal{A}_{\beta}{}^{\delta}{}_{\delta}\,\partial^{\chi}\mathcal{A}^{\alpha\beta}{}_{\alpha} + \left(\partial_{\alpha}\mathcal{A}^{\alpha\beta\chi} - 2\ \partial^{\chi}\mathcal{A}^{\alpha\beta}{}_{\alpha} \right) \partial_{\delta}\mathcal{A}_{\beta}{}^{\delta}{}_{\chi} \right) + 4\ \alpha_{3}\,\partial_{\beta}\mathcal{A}^{\alpha\beta}{}_{\alpha}\,\partial_{\delta}\mathcal{A}^{\chi\delta}{}_{\chi} - \alpha_{2}\,\left(\partial_{\chi}\mathcal{A}_{\delta}{}^{\zeta}{}_{\zeta}\,\partial^{\delta}\mathcal{A}^{\beta\chi}{}_{\beta} + \left(\partial_{\beta}\mathcal{A}^{\beta\chi\delta} - 2\ \partial^{\delta}\mathcal{A}^{\beta\chi}{}_{\beta} \right) \partial_{\zeta}\mathcal{A}_{\delta}{}^{\zeta}{}_{\chi} \right) \right) [t,\ x,\ y,\ z]\ dz\ dy\ dx\ dt$$

Wave operator

	$\overset{0^+}{\cdot}\mathcal{A}^{\parallel}$	$\overset{0^+}{\cdot}f^{\parallel}$	$\overset{0^+}{\cdot}f^{\perp}$	$\overset{0^-}{\cdot}\mathcal{A}^{\parallel}$
$\overset{0^+}{\cdot}\mathcal{A}^{\parallel}\,\dagger$	$\frac{1}{2}\left(\alpha_{0} + 4\left(\alpha_{1} + \alpha_{2} + 3\,\alpha_{3}\right)k^2\right)$	$-\frac{i\,\alpha_{0}\,k}{\sqrt{2}}$	0	0
$\overset{0^+}{\cdot}f^{\parallel}\,\dagger$	$\frac{i\,\alpha_{0}\,k}{\sqrt{2}}$	0	0	0
$\overset{0^+}{\cdot}f^{\perp}\,\dagger$	0	0	0	0
$\overset{0^-}{\cdot}\mathcal{A}^{\parallel}\,\dagger$	0	0	0	$\frac{\alpha_{0}}{2}$

	$\overset{1^+}{\cdot}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\mathcal{A}^{\perp}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}f^{\parallel}{}_{\alpha\beta}$	$\overset{1^-}{\cdot}\mathcal{A}^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}\mathcal{A}^{\perp}{}_{\alpha}$	$\overset{1^-}{\cdot}f^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}f^{\perp}{}_{\alpha}$
$\overset{1^+}{\cdot}\mathcal{A}^{\parallel}\,\dagger^{\alpha\beta}$	$\frac{1}{4}\left(\alpha_{0} + 2\left(\alpha_{1} - \alpha_{2}\right)k^2\right)$	$\frac{\alpha_{0}}{2\sqrt{2}}$	$\frac{i\,\alpha_{0}\,k}{2\sqrt{2}}$	0	0	0	0
$\overset{1^+}{\cdot}\mathcal{A}^{\perp}\,\dagger^{\alpha\beta}$	$\frac{\alpha_{0}}{2\sqrt{2}}$	0	0	0	0	0	0
$\overset{1^+}{\cdot}f^{\parallel}\,\dagger^{\alpha\beta}$	$-\frac{i\,\alpha_{0}\,k}{2\sqrt{2}}$	0	0	0	0	0	0
$\overset{1^-}{\cdot}\mathcal{A}^{\parallel}\,\dagger^{\alpha}$	0	0	0	$\frac{\alpha_{0}}{4} + \alpha_{1}\,k^2$	$-\frac{\alpha_{0}}{2\sqrt{2}}$	0	$-\frac{1}{2}\,i\,\alpha_{0}\,k$
$\overset{1^-}{\cdot}\mathcal{A}^{\perp}\,\dagger^{\alpha}$	0	0	0	$-\frac{\alpha_{0}}{2\sqrt{2}}$	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	$\frac{i\,\alpha_{0}\,k}{2}$	0	0	0

	$\overset{2^+}{\cdot}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$\overset{2^+}{\cdot}f^{\parallel}{}_{\alpha\beta}$	$\overset{2^-}{\cdot}\mathcal{A}^{\parallel}{}_{\alpha\beta\chi}$
$\overset{2^+}{\cdot}\mathcal{A}^{\parallel}\,\dagger^{\alpha\beta}$	$\frac{1}{4}\left(-\alpha_{0} + 2\left(\alpha_{1} + \alpha_{2}\right)k^2\right)$	$\frac{i\,\alpha_{0}\,k}{2\sqrt{2}}$	0
$\overset{2^+}{\cdot}f^{\parallel}\,\dagger^{\alpha\beta}$	$-\frac{i\,\alpha_{0}\,k}{2\sqrt{2}}$	0	0
$\overset{2^-}{\cdot}\mathcal{A}^{\parallel}\,\dagger^{\alpha\beta\chi}$	0	0	$-\frac{\alpha_{0}}{4}$

Saturated propagator

	$\overset{0^+}{\cdot}\sigma^{\parallel}$	$\overset{0^+}{\cdot}\tau^{\parallel}$	$\overset{0^+}{\cdot}\tau^{\perp}$	$\overset{0^-}{\cdot}\sigma^{\parallel}$
$\overset{0^+}{\cdot}\sigma^{\parallel}\,\dagger$	0	$-\frac{i\sqrt{2}}{\alpha_{0}\,k}$	0	0
$\overset{0^+}{\cdot}\tau^{\parallel}\,\dagger$	$\frac{i\sqrt{2}}{\alpha_{0}\,k}$	$-\frac{4\left(\alpha_{1}+\alpha_{2}+3\,\alpha_{3}\right)+\frac{\alpha_{0}}{k^2}}{\alpha_{0}^{2}}$	0	0
$\overset{0^+}{\cdot}\tau^{\perp}\,\dagger$	0	0	0	0
$\overset{0^-}{\cdot}\sigma^{\parallel}\,\dagger$	0	0	0	$\frac{2}{\alpha_{0}}$

	$\overset{1^+}{\cdot}\sigma^{\parallel}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\sigma^{\perp}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\tau^{\parallel}{}_{\alpha\beta}$	$\overset{1^-}{\cdot}\sigma^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}\sigma^{\perp}{}_{\alpha}$	$\overset{1^-}{\cdot}\tau^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}\tau^{\perp}{}_{\alpha}$
$\overset{1^+}{\cdot}\sigma^{\parallel}\,\dagger^{\alpha\beta}$	0	$\frac{2\sqrt{2}}{\alpha_{0}+\alpha_{0}\,k^2}$	$\frac{2\,i\sqrt{2}\,k}{\alpha_{0}+\alpha_{0}\,k^2}$	0	0	0	0
$\overset{1^+}{\cdot}\sigma^{\perp}\,\dagger^{\alpha\beta}$	$\frac{2\sqrt{2}}{\alpha_{0}+\alpha_{0}\,k^2}$	$-\frac{2\left(\alpha_{0}+2\left(\alpha_{1}-\alpha_{2}\right)k^2\right)}{\alpha_{0}^{2}\left(1+k^2\right)^2}$	$-\frac{2\,i\,k\left(\alpha_{0}+2\left(\alpha_{1}-\alpha_{2}\right)k^2\right)}{\alpha_{0}^{2}\left(1+k^2\right)^2}$	0	0	0	0
$\overset{1^+}{\cdot}\tau^{\parallel}\,\dagger^{\alpha\beta}$	$-\frac{2\,i\sqrt{2}\,k}{\alpha_{0}+\alpha_{0}\,k^2}$	$\frac{2\,i\,k\left(\alpha_{0}+2\left(\alpha_{1}-\alpha_{2}\right)k^2\right)}{\alpha_{0}^{2}\left(1+k^2\right)^2}$	$-\frac{2\,k^2\left(\alpha_{0}+2\left(\alpha_{1}-\alpha_{2}\right)k^2\right)}{\alpha_{0}^{2}\left(1+k^2\right)^2}$	0	0	0	0
$\overset{1^-}{\cdot}\sigma^{\parallel}\,\dagger^{\alpha}$	0	0	0	0	$-\frac{2\sqrt{2}}{\alpha_{0}+2\,\alpha_{0}\,k^2}$	0	$-\frac{4\,i\,k}{\alpha_{0}+2\,\alpha_{0}\,k^2}$
$\overset{1^-}{\cdot}\sigma^{\perp}\,\dagger^{\alpha}$	0	0	0	$-\frac{2\sqrt{2}}{\alpha_{0}+2\,\alpha_{0}\,k^2}$	$-\frac{2\left(\alpha_{0}+4\,\alpha_{1}\,k^2\right)}{\left(\alpha_{0}+2\,\alpha_{0}\,k^2\right)^2}$	0	$-\frac{2\,i\sqrt{2}\,k\left(\alpha_{0}+4\,\alpha_{1}\,k^2\right)}{\left(\alpha_{0}+2\,\alpha_{0}\,k^2\right)^2}$
$\overset{1^-}{\cdot}\tau^{\parallel}\,\dagger^{\alpha}$	0	0	0	0	0	0	0
$\overset{1^-}{\cdot}\tau^{\perp}\,\dagger^{\alpha}$	0	0	0	$\frac{4\,i\,k}{\alpha_{0}+2\,\alpha_{0}\,k^2}$	$\frac{2\,i\sqrt{2}\,k\left(\alpha_{0}+4\,\alpha_{1}\,k^2\right)}{\left(\alpha_{0}+2\,\alpha_{0}\,k^2\right)^2}$	0	$-\frac{4\,k^2\left(\alpha_{0}+4\,\alpha_{1}\,k^2\right)}{\left(\alpha_{0}+2\,\alpha_{0}\,k^2\right)^2}$

	$\overset{2^+}{\cdot}\sigma^{\parallel}{}_{\alpha\beta}$	$\overset{2^+}{\cdot}\tau^{\parallel}{}_{\alpha\beta}$	$\overset{2^-}{\cdot}\sigma^{\parallel}{}_{\alpha\beta\chi}$
$\overset{2^+}{\cdot}\sigma^{\parallel}\,\dagger^{\alpha\beta}$	0	$\frac{2\,i\sqrt{2}}{\alpha_{0}\,k}$	0
$\overset{2^+}{\cdot}\tau^{\parallel}\,\dagger^{\alpha\beta}$	$-\frac{2\,i\sqrt{2}}{\alpha_{0}\,k}$	$\frac{2\left(\alpha_{0}-2\left(\alpha_{1}+\alpha_{2}\right)k^2\right)}{\alpha_{0}^{2}\,k^2}$	0
$\overset{2^-}{\cdot}\sigma^{\parallel}\,\dagger^{\alpha\beta\chi}$	0	0	$-\frac{4}{\alpha_{0}}$

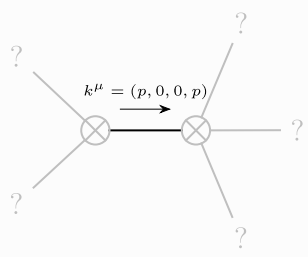
Source constraints

Spin-parity form	Covariant form	Multiplicities
$\overset{0^+}{\cdot}\tau^{\perp} == 0$	$\partial_{\beta}\partial_{\alpha}\tau\,(\Delta+\mathcal{K})^{\alpha\beta} == 0$	1
$2\,i\,k\ \overset{1^-}{\cdot}\sigma^{\perp}{}^{\alpha} + \overset{1^-}{\cdot}\tau^{\perp}{}^{\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\beta\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau\,(\Delta+\mathcal{K})^{\alpha\beta} + 2\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi}$	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
$i\,k\ \overset{1^+}{\cdot}\sigma^{\perp}{}^{\alpha\beta} + \overset{1^+}{\cdot}\tau^{\parallel}{}^{\alpha\beta} == 0$	$\partial_{\chi}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\beta\chi} + \partial_{\chi}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\chi\alpha} + \partial_{\chi}\partial^{\chi}\tau\,(\Delta+\mathcal{K})^{\alpha\beta} + 2\,\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta} + 2\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\chi\alpha\beta} == \partial_{\chi}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\chi\beta} + \partial_{\chi}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\alpha\chi} + \partial_{\chi}\partial^{\chi}\tau\,(\Delta+\mathcal{K})^{\beta\alpha} + 2\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta}$	3
Total expected gauge generators:		10

Massive spectrum

(There are no massive particles)

Massless spectrum



Massless particle

Pole residue:	$\frac{p^2}{\alpha_{0}} > 0$
Polarisations:	2

Gauge symmetries

(Not yet implemented in PSALTer)

Unitarity conditions

$\alpha_{0} > 0$

Validity assumptions

(Not yet implemented in PSALTer)