PSALTer results panel

$$S == \int\int\int\int (\mathcal{A}^{\alpha\beta\chi}\ \sigma_{\alpha\beta\chi} + f^{\alpha\beta}\ \tau(\Delta+\mathcal{K})_{\alpha\beta} + t_{._1} (\mathcal{A}_{\iota\zeta\theta}\ \mathcal{A}^{\iota\theta\zeta} + \mathcal{A}^{\iota\theta}{}_{,}\ \mathcal{A}_{\theta}{}^{\zeta}{}_{\zeta} + 2\, f^{\iota\theta}\ \partial_\theta \mathcal{A}_{\iota}{}^{\zeta}{}_{\zeta} - 2\, \partial_\theta \mathcal{A}^{\iota\theta}{}_{,} - 2\, f^{\iota\theta}\ \partial_\zeta \mathcal{A}_{\iota}{}^{\zeta}{}_{\theta} + 2\, f'{}_{,}\ \partial_\zeta \mathcal{A}^{\theta\zeta}{}_{\theta}))[t, x, y, z]\, dz\, dy\, dx\, dt$$

Wave operator

	$0^+_{.}\mathcal{A}^{\parallel}$	$0^+_{.}f^{\parallel}$	$0^+_{.}f^{\perp}$	$0^-_{.}\mathcal{A}^{\parallel}$
$0^+_{.}\mathcal{A}^{\parallel}\dagger$	$-t_{._1}$	$i\sqrt{2}\,k t_{._1}$	0	0
$0^+_{.}f^{\parallel}\dagger$	$-i\sqrt{2}\,k t_{._1}$	0	0	0
$0^+_{.}f^{\perp}\dagger$	0	0	0	0
$0^-_{.}\mathcal{A}^{\parallel}\dagger$	0	0	0	$-t_{._1}$

	$1^+_{.}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$1^+_{.}\mathcal{A}^{\perp}{}_{\alpha\beta}$	$1^+_{.}f^{\parallel}{}_{\alpha\beta}$	$1^-_{.}\mathcal{A}^{\parallel}{}_{\alpha}$	$1^-_{.}\mathcal{A}^{\perp}{}_{\alpha}$	$1^-_{.}f^{\parallel}{}_{\alpha}$	$1^-_{.}f^{\perp}{}_{\alpha}$
$1^+_{.}\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$-\frac{t_{._1}}{2}$	$-\frac{t_{._1}}{\sqrt{2}}$	$-\frac{ikt_{._1}}{\sqrt{2}}$	0	0	0	0
$1^+_{.}\mathcal{A}^{\perp}\dagger^{\alpha\beta}$	$-\frac{t_{._1}}{\sqrt{2}}$	0	0	0	0	0	0
$1^+_{.}f^{\parallel}\dagger^{\alpha\beta}$	$\frac{ikt_{._1}}{\sqrt{2}}$	0	0	0	0	0	0
$1^-_{.}\mathcal{A}^{\parallel}\dagger^{\alpha}$	0	0	0	$-\frac{t_{._1}}{2}$	$\frac{t_{._1}}{\sqrt{2}}$	0	$ikt_{._1}$
$1^-_{.}\mathcal{A}^{\perp}\dagger^{\alpha}$	0	0	0	$\frac{t_{._1}}{\sqrt{2}}$	0	0	0
$1^-_{.}f^{\parallel}\dagger^{\alpha}$	0	0	0	0	0	0	0
$1^-_{.}f^{\perp}\dagger^{\alpha}$	0	0	0	$-ikt_{._1}$	0	0	0

	$2^+_{.}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$2^+_{.}f^{\parallel}{}_{\alpha\beta}$	$2^-_{.}\mathcal{A}^{\parallel}{}_{\alpha\beta\chi}$
$2^+_{.}\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$\frac{t_{._1}}{2}$	$-\frac{ikt_{._1}}{\sqrt{2}}$	0
$2^+_{.}f^{\parallel}\dagger^{\alpha\beta}$	$\frac{ikt_{._1}}{\sqrt{2}}$	0	0
$2^-_{.}\mathcal{A}^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	$\frac{t_{._1}}{2}$

Saturated propagator

	$0^+_{.}\sigma^{\parallel}$	$0^+_{.}\tau^{\parallel}$	$0^+_{.}\tau^{\perp}$	$0^-_{.}\sigma^{\parallel}$
$0^+_{.}\sigma^{\parallel}\dagger$	0	$\frac{i}{\sqrt{2}\,k t_{._1}}$	0	0
$0^+_{.}\tau^{\parallel}\dagger$	$-\frac{i}{\sqrt{2}\,k t_{._1}}$	$\frac{1}{2k^2 t_{._1}}$	0	0
$0^+_{.}\tau^{\perp}\dagger$	0	0	0	0
$0^-_{.}\sigma^{\parallel}\dagger$	0	0	0	$-\frac{1}{t_{._1}}$

	$1^+_{.}\sigma^{\parallel}{}_{\alpha\beta}$	$1^+_{.}\sigma^{\perp}{}_{\alpha\beta}$	$1^+_{.}\tau^{\parallel}{}_{\alpha\beta}$	$1^-_{.}\sigma^{\parallel}{}_{\alpha}$	$1^-_{.}\sigma^{\perp}{}_{\alpha}$	$1^-_{.}\tau^{\parallel}{}_{\alpha}$	$1^-_{.}\tau^{\perp}{}_{\alpha}$
$1^+_{.}\sigma^{\parallel}\dagger^{\alpha\beta}$	0	$-\frac{\sqrt{2}}{t_{._1}+k^2 t_{._1}}$	$-\frac{i\sqrt{2}\,k}{t_{._1}+k^2 t_{._1}}$	0	0	0	0
$1^+_{.}\sigma^{\perp}\dagger^{\alpha\beta}$	$-\frac{\sqrt{2}}{t_{._1}+k^2 t_{._1}}$	$\frac{1}{(1+k^2)^2 t_{._1}}$	$\frac{ik}{(1+k^2)^2 t_{._1}}$	0	0	0	0
$1^+_{.}\tau^{\parallel}\dagger^{\alpha\beta}$	$\frac{i\sqrt{2}\,k}{t_{._1}+k^2 t_{._1}}$	$-\frac{ik}{(1+k^2)^2 t_{._1}}$	$\frac{k^2}{(1+k^2)^2 t_{._1}}$	0	0	0	0
$1^-_{.}\sigma^{\parallel}\dagger^{\alpha}$	0	0	0	0	$\frac{\sqrt{2}}{t_{._1}+2k^2 t_{._1}}$	0	$\frac{2ik}{t_{._1}+2k^2 t_{._1}}$
$1^-_{.}\sigma^{\perp}\dagger^{\alpha}$	0	0	0	$\frac{\sqrt{2}}{t_{._1}+2k^2 t_{._1}}$	$\frac{1}{(1+2k^2)^2 t_{._1}}$	0	$\frac{i\sqrt{2}\,k}{(1+2k^2)^2 t_{._1}}$
$1^-_{.}\tau^{\parallel}\dagger^{\alpha}$	0	0	0	0	0	0	0
$1^-_{.}\tau^{\perp}\dagger^{\alpha}$	0	0	0	$-\frac{2ik}{t_{._1}+2k^2 t_{._1}}$	$-\frac{i\sqrt{2}\,k}{(1+2k^2)^2 t_{._1}}$	0	$\frac{2k^2}{(1+2k^2)^2 t_{._1}}$

	$2^+_{.}\sigma^{\parallel}{}_{\alpha\beta}$	$2^+_{.}\tau^{\parallel}{}_{\alpha\beta}$	$2^-_{.}\sigma^{\parallel}{}_{\alpha\beta\chi}$
$2^+_{.}\sigma^{\parallel}\dagger^{\alpha\beta}$	0	$-\frac{i\sqrt{2}}{kt_{._1}}$	0
$2^+_{.}\tau^{\parallel}\dagger^{\alpha\beta}$	$\frac{i\sqrt{2}}{kt_{._1}}$	$-\frac{1}{k^2 t_{._1}}$	0
$2^-_{.}\sigma^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	$\frac{2}{t_{._1}}$

Source constraints

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

Massive spectrum

(No particles)

Massless spectrum

$Failed

Massless particle

Pole residue:	$-\frac{p^2}{t_{._1}} > 0$
Polarisations:	2

Unitarity conditions

$t_{._1} < 0$