PSALTer results panel

$S ==$

$$\int\int\int\int\left(\frac{1}{6}\left(6\,\mathcal{A}^{\alpha\beta\chi}{}_{\sigma_{\alpha\beta\chi}}+6\,f^{\alpha\beta}{}_{\tau\,(\Delta+\mathcal{K})_{\alpha\beta}}+12\,r_{.1}\,\partial_\beta\mathcal{A}_{,}{}^{\theta}{}_{\theta}\,\partial^{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha}-24\,r_{.3}\,\partial_\beta\mathcal{A}_{,}{}^{\theta}{}_{\theta}\,\partial^{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha}+12\,r_{.1}\,\partial_{\prime}\mathcal{A}_{\beta}{}^{\theta}{}_{\theta}\,\partial^{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha}+12\,r_{.1}\,\partial_\alpha\mathcal{A}^{\alpha\beta\prime}\right.\right.$$
$$\partial_\theta\mathcal{A}_{\beta}{}^{\theta}{}_{,}-24\,r_{.1}\,\partial^{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha}\,\partial_\theta\mathcal{A}_{\beta}{}^{\theta}{}_{,}+12\,r_{.1}\,\partial_\alpha\mathcal{A}^{\alpha\beta\prime}\,\partial_\theta\mathcal{A}_{,}{}^{\theta}{}_{\beta}-24\,r_{.3}\,\partial_\alpha\mathcal{A}^{\alpha\beta\prime}\,\partial_\theta\mathcal{A}_{,}{}^{\theta}{}_{\beta}-24\,r_{.1}\,\partial^{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha}\,\partial_\theta\mathcal{A}_{,}{}^{\theta}{}_{\beta}+$$
$$48\,r_{.3}\,\partial^{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha}\,\partial_\theta\mathcal{A}_{,}{}^{\theta}{}_{\beta}-8\,r_{.1}\,\partial_\beta\mathcal{A}_{\alpha\prime\theta}\,\partial^\theta\mathcal{A}^{\alpha\beta\prime}+8\,r_{.2}\,\partial_\beta\mathcal{A}_{\alpha\prime\theta}\,\partial^\theta\mathcal{A}^{\alpha\beta\prime}+4\,r_{.1}\,\partial_\beta\mathcal{A}_{\alpha\theta\prime}\,\partial^\theta\mathcal{A}^{\alpha\beta\prime}-$$
$$4\,r_{.2}\,\partial_\beta\mathcal{A}_{\alpha\theta\prime}\,\partial^\theta\mathcal{A}^{\alpha\beta\prime}+8\,r_{.1}\,\partial_\beta\mathcal{A}_{,\theta\alpha}\,\partial^\theta\mathcal{A}^{\alpha\beta\prime}+4\,r_{.2}\,\partial_\beta\mathcal{A}_{,\theta\alpha}\,\partial^\theta\mathcal{A}^{\alpha\beta\prime}-24\,r_{.3}\,\partial_\beta\mathcal{A}_{,\theta\alpha}\,\partial^\theta\mathcal{A}^{\alpha\beta\prime}-$$
$$4\,r_{.1}\,\partial_{\prime}\mathcal{A}_{\alpha\beta\theta}\,\partial^\theta\mathcal{A}^{\alpha\beta\prime}-2\,r_{.2}\,\partial_{\prime}\mathcal{A}_{\alpha\beta\theta}\,\partial^\theta\mathcal{A}^{\alpha\beta\prime}+4\,r_{.1}\,\partial_\theta\mathcal{A}_{\alpha\beta\prime}\,\partial^\theta\mathcal{A}^{\alpha\beta\prime}+2\,r_{.2}\,\partial_\theta\mathcal{A}_{\alpha\beta\prime}\,\partial^\theta\mathcal{A}^{\alpha\beta\prime}+4\,r_{.1}\,\partial_\theta\mathcal{A}_{\alpha\prime\beta}\,\partial^\theta\mathcal{A}^{\alpha\beta\prime}-$$
$$4\,r_{.2}\,\partial_\theta\mathcal{A}_{\alpha\prime\beta}\,\partial^\theta\mathcal{A}^{\alpha\beta\prime}+4\,t_{.2}\,\mathcal{A}_{\prime\theta\alpha}\,\partial^\theta f^{\alpha\prime}+2\,t_{.2}\,\partial_\alpha f_{\prime\theta}\,\partial^\theta f^{\alpha\prime}-t_{.2}\,\partial_\alpha f_{\theta\prime}\,\partial^\theta f^{\alpha\prime}-t_{.2}\,\partial_{\prime}f_{\alpha\theta}\,\partial^\theta f^{\alpha\prime}+t_{.2}\,\partial_\theta f_{\alpha\prime}\,\partial^\theta f^{\alpha\prime}-$$
$$\left.\left.t_{.2}\,\partial_\theta f_{\prime\alpha}\,\partial^\theta f^{\alpha\prime}-4\,t_{.2}\,\mathcal{A}_{\alpha\theta\prime}\left(\mathcal{A}^{\alpha\prime\theta}+\partial^\theta f^{\alpha\prime}\right)+2\,t_{.2}\,\mathcal{A}_{\alpha\prime\theta}\left(\mathcal{A}^{\alpha\prime\theta}+2\,\partial^\theta f^{\alpha\prime}\right)\right)\right)[t,\,x,\,y,\,z]\,dz\,dy\,dx\,dt$$

Wave operator

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

	$1^+_{.}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$1^+_{.}\mathcal{A}^{\perp}{}_{\alpha\beta}$	$1^+_{.}f^{\parallel}{}_{\alpha\beta}$	$1^-_{.}\mathcal{A}^{\parallel}{}_{\alpha}$	$1^-_{.}\mathcal{A}^{\perp}{}_{\alpha}$	$1^-_{.}f^{\parallel}{}_{\alpha}$	$1^-_{.}f^{\perp}{}_{\alpha}$
$1^+_{.}\mathcal{A}^{\parallel}\,\dagger^{\alpha\beta}$	$\frac{2\,t_{.2}}{3}$	$\frac{\sqrt{2}\,t_{.2}}{3}$	$\frac{1}{3}\,i\,\sqrt{2}\,k\,t_{.2}$	0	0	0	0
$1^+_{.}\mathcal{A}^{\perp}\,\dagger^{\alpha\beta}$	$\frac{\sqrt{2}\,t_{.2}}{3}$	$\frac{t_{.2}}{3}$	$\frac{i\,k\,t_{.2}}{3}$	0	0	0	0
$1^+_{.}f^{\parallel}\,\dagger^{\alpha\beta}$	$-\frac{1}{3}\,i\,\sqrt{2}\,k\,t_{.2}$	$-\frac{1}{3}\,i\,k\,t_{.2}$	$\frac{k^2\,t_{.2}}{3}$	0	0	0	0
$1^-_{.}\mathcal{A}^{\parallel}\,\dagger^{\alpha}$	0	0	0	$-k^2\,r_{.1}$	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

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

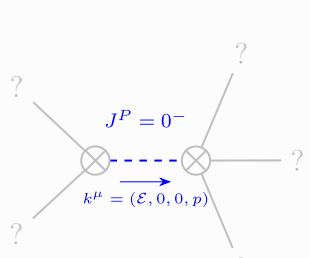
	$1^+_{.}\sigma^{\parallel}{}_{\alpha\beta}$	$1^+_{.}\sigma^{\perp}{}_{\alpha\beta}$	$1^+_{.}\tau^{\parallel}{}_{\alpha\beta}$	$1^-_{.}\sigma^{\parallel}{}_{\alpha}$	$1^-_{.}\sigma^{\perp}{}_{\alpha}$	$1^-_{.}\tau^{\parallel}{}_{\alpha}$	$1^-_{.}\tau^{\perp}{}_{\alpha}$
$1^+_{.}\sigma^{\parallel}\,\dagger^{\alpha\beta}$	$\frac{6}{(3+k^2)^2\,t_{.2}}$	$\frac{3\,\sqrt{2}}{(3+k^2)^2\,t_{.2}}$	$\frac{3\,i\,\sqrt{2}\,k}{(3+k^2)^2\,t_{.2}}$	0	0	0	0
$1^+_{.}\sigma^{\perp}\,\dagger^{\alpha\beta}$	$\frac{3\,\sqrt{2}}{(3+k^2)^2\,t_{.2}}$	$\frac{3}{(3+k^2)^2\,t_{.2}}$	$\frac{3\,i\,k}{(3+k^2)^2\,t_{.2}}$	0	0	0	0
$1^+_{.}\tau^{\parallel}\,\dagger^{\alpha\beta}$	$-\frac{3\,i\,\sqrt{2}\,k}{(3+k^2)^2\,t_{.2}}$	$-\frac{3\,i\,k}{(3+k^2)^2\,t_{.2}}$	$\frac{3\,k^2}{(3+k^2)^2\,t_{.2}}$	0	0	0	0
$1^-_{.}\sigma^{\parallel}\,\dagger^{\alpha}$	0	0	0	$-\frac{1}{k^2\,r_{.1}}$	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
$0^+_{.}\tau^{\perp} == 0$	$\partial_\beta\partial_{\alpha\tau\,(\Delta+\mathcal{K})}{}^{\alpha\beta} == 0$	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
$i\,k\;1^+_{.}\sigma^{\parallel\,\alpha\beta}+1^+_{.}\tau^{\parallel\,\alpha\beta} == 0$	$\partial_\chi\partial^\alpha{}_{\tau\,(\Delta+\mathcal{K})}{}^{\beta\chi}+\partial_\chi\partial^\beta{}_{\tau\,(\Delta+\mathcal{K})}{}^{\chi\alpha}+\partial_\chi\partial^\chi{}_{\tau\,(\Delta+\mathcal{K})}{}^{\alpha\beta}+\partial_\delta\partial_\chi\partial^\beta\sigma^{\chi\alpha\delta}+\partial_\delta\partial^\delta\partial_\chi\sigma^{\alpha\beta\chi} ==$ $\partial_\chi\partial^\alpha{}_{\tau\,(\Delta+\mathcal{K})}{}^{\chi\beta}+\partial_\chi\partial^\beta{}_{\tau\,(\Delta+\mathcal{K})}{}^{\alpha\chi}+\partial_\chi\partial^\chi{}_{\tau\,(\Delta+\mathcal{K})}{}^{\beta\alpha}+\partial_\delta\partial_\chi\partial^\alpha\sigma^{\chi\beta\delta}+\partial_\delta\partial^\delta\partial_\chi\sigma^{\beta\alpha\chi}$	3
$1^+_{.}\sigma^{\parallel\,\alpha\beta} == 1^+_{.}\sigma^{\perp\,\alpha\beta}$	$3\,\partial_\delta\partial_\chi\partial^\alpha\sigma^{\chi\beta\delta}+\partial_\delta\partial^\delta\partial_\chi\sigma^{\beta\alpha\chi}+2\,\partial_\delta\partial^\delta\partial_\chi\sigma^{\chi\alpha\beta} == 3\,\partial_\delta\partial_\chi\partial^\beta\sigma^{\chi\alpha\delta}+\partial_\delta\partial^\delta\partial_\chi\sigma^{\alpha\beta\chi}$	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
$2^+_{.}\sigma^{\parallel\,\alpha\beta} == 0$	$3\,\partial_\delta\partial_\chi\partial^\alpha\sigma^{\chi\beta\delta}+3\,\partial_\delta\partial_\chi\partial^\beta\sigma^{\chi\alpha\delta}+2\;\eta^{\alpha\beta}\;\partial_\epsilon\partial^\epsilon\partial_\delta\sigma^{\chi}{}_{\chi}{}^{\delta} == 2\,\partial_\delta\partial^\beta\partial^\alpha\sigma^{\chi}{}_{\chi}{}^{\delta}+3\left(\partial_\delta\partial^\delta\partial_\chi\sigma^{\alpha\beta\chi}+\partial_\delta\partial^\delta\partial_\chi\sigma^{\beta\alpha\chi}\right)$	5
Total expected gauge generators:		27

Massive spectrum



Massive particle

Pole residue:	$-\frac{1}{r_{.2}} > 0$
Square mass:	$-\frac{t_{.2}}{r_{.2}} > 0$
Spin:	0
Parity:	Odd

Massless spectrum

(There are no massless particles)

Gauge symmetries

(Not yet implemented in PSALTer)

Unitarity conditions

$r_{.2} < 0\;\&\&\;t_{.2} > 0$

Validity assumptions

(Not yet implemented in PSALTer)