PSALTer results panel

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$$\int\int\int\int\left(\frac{1}{6}\left(6\,t_{.1}\,\mathcal{A}^{\alpha\prime}{}_{\alpha}\,\mathcal{A}_{\prime}{}^{\theta}{}_{\theta}+6\,\mathcal{A}^{\alpha\beta\chi}\,\sigma_{\alpha\beta\chi}+6\,f^{\alpha\beta}\,\tau\,(\Delta+\mathcal{K})_{\alpha\beta}-12\,t_{.1}\,\mathcal{A}_{\alpha}{}^{\theta}{}_{\theta}\,\partial_{\prime}f^{\alpha\prime}-12\,r_{.1}\,\partial_{\beta}\mathcal{A}_{\prime}{}^{\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\,t_{.1}\,\mathcal{A}_{\prime}{}^{\theta}{}_{\theta}\,\partial^{\prime}f^{\alpha}{}_{\alpha}-6\,t_{.1}\,\partial_{\prime}f^{\theta}{}_{\theta}\,\partial^{\prime}f^{\alpha}{}_{\alpha}+12\,r_{.1}\,\partial_{\alpha}\mathcal{A}^{\alpha\beta\prime}\,\partial_{\theta}\mathcal{A}_{\beta}{}^{\theta}{}_{\prime}-24\,r_{.1}\,\partial^{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha}\,\partial_{\theta}\mathcal{A}_{\beta}{}^{\theta}{}_{\prime}-12\,r_{.1}\,\partial_{\alpha}\mathcal{A}^{\alpha\beta\prime}\,\partial_{\theta}\mathcal{A}_{\prime}{}^{\theta}{}_{\beta}+24\,r_{.1}\,\partial^{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha}\,\partial_{\theta}\mathcal{A}_{\prime}{}^{\theta}{}_{\beta}-6\,t_{.1}\,\partial_{\prime}f^{\alpha\prime}\,\partial_{\theta}f_{\alpha}{}^{\theta}+12\,t_{.1}\,\partial^{\prime}f^{\alpha}{}_{\alpha}\,\partial_{\theta}f_{\prime}{}^{\theta}-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}-16\,r_{.1}\,\partial_{\beta}\mathcal{A}_{\prime\theta\alpha}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\prime}+4\,r_{.2}\,\partial_{\beta}\mathcal{A}_{\prime\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_{.1}\,\mathcal{A}_{\prime\theta\alpha}\,\partial^{\theta}f^{\alpha\prime}+4\,t_{.2}\,\mathcal{A}_{\prime\theta\alpha}\,\partial^{\theta}f^{\alpha\prime}-4\,t_{.1}\,\partial_{\alpha}f_{\prime\theta}\,\partial^{\theta}f^{\alpha\prime}+2\,t_{.2}\,\partial_{\alpha}f_{\prime\theta}\,\partial^{\theta}f^{\alpha\prime}-4\,t_{.1}\,\partial_{\alpha}f_{\theta\prime}\,\partial^{\theta}f^{\alpha\prime}-t_{.2}\,\partial_{\alpha}f_{\theta\prime}\,\partial^{\theta}f^{\alpha\prime}+2\,t_{.1}\,\partial_{\prime}f_{\alpha\theta}\,\partial^{\theta}f^{\alpha\prime}-t_{.2}\,\partial_{\prime}f_{\alpha\theta}\,\partial^{\theta}f^{\alpha\prime}+4\,t_{.1}\,\partial_{\theta}f_{\alpha\prime}\,\partial^{\theta}f^{\alpha\prime}+t_{.2}\,\partial_{\theta}f_{\alpha\prime}\,\partial^{\theta}f^{\alpha\prime}+2\,t_{.1}\,\partial_{\theta}f_{\prime\alpha}\,\partial^{\theta}f^{\alpha\prime}-t_{.2}\,\partial_{\theta}f_{\prime\alpha}\,\partial^{\theta}f^{\alpha\prime}+2\left(t_{.1}+t_{.2}\right)\mathcal{A}_{\alpha\prime\theta}\left(\mathcal{A}^{\alpha\prime\theta}+2\,\partial^{\theta}f^{\alpha\prime}\right)+2\,\mathcal{A}_{\alpha\theta\prime}\left(\left(t_{.1}-2\,t_{.2}\right)\mathcal{A}^{\alpha\prime\theta}+2\left(2\,t_{.1}-t_{.2}\right)\partial^{\theta}f^{\alpha\prime}\right)\right)\right)[t,x,y,z]\,dz\,dy\,dx\,dt$$

Wave operator

	$\overset{0^+}{.}\mathcal{A}^{\parallel}$	$\overset{0^+}{.}f^{\parallel}$	$\overset{0^+}{.}f^{\perp}$	$\overset{0^-}{.}\mathcal{A}^{\parallel}$
$\overset{0^+}{.}\mathcal{A}^{\parallel}\,\dagger$	$-t_{.1}$	$i\sqrt{2}\,k\,t_{.1}$	0	0
$\overset{0^+}{.}f^{\parallel}\,\dagger$	$-i\sqrt{2}\,k\,t_{.1}$	$-2\,k^2\,t_{.1}$	0	0
$\overset{0^+}{.}f^{\perp}\,\dagger$	0	0	0	0
$\overset{0^-}{.}\mathcal{A}^{\parallel}\,\dagger$	0	0	0	$k^2\,r_{.2}+t_{.2}$

	$\overset{1^+}{.}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$\overset{1^+}{.}\mathcal{A}^{\perp}{}_{\alpha\beta}$	$\overset{1^+}{.}f^{\parallel}{}_{\alpha\beta}$	$\overset{1^-}{.}\mathcal{A}^{\parallel}{}_{\alpha}$	$\overset{1^-}{.}\mathcal{A}^{\perp}{}_{\alpha}$	$\overset{1^-}{.}f^{\parallel}{}_{\alpha}$	$\overset{1^-}{.}f^{\perp}{}_{\alpha}$
$\overset{1^+}{.}\mathcal{A}^{\parallel}\,\dagger^{\alpha\beta}$	$\frac{1}{6}\left(t_{.1}+4\,t_{.2}\right)$	$-\frac{t_{.1}-2\,t_{.2}}{3\sqrt{2}}$	$-\frac{i\,k\left(t_{.1}-2\,t_{.2}\right)}{3\sqrt{2}}$	0	0	0	0
$\overset{1^+}{.}\mathcal{A}^{\perp}\,\dagger^{\alpha\beta}$	$-\frac{t_{.1}-2\,t_{.2}}{3\sqrt{2}}$	$\frac{t_{.1}+t_{.2}}{3}$	$\frac{1}{3}\,i\,k\left(t_{.1}+t_{.2}\right)$	0	0	0	0
$\overset{1^+}{.}f^{\parallel}\,\dagger^{\alpha\beta}$	$\frac{i\,k\left(t_{.1}-2\,t_{.2}\right)}{3\sqrt{2}}$	$-\frac{1}{3}\,i\,k\left(t_{.1}+t_{.2}\right)$	$\frac{1}{3}\,k^2\left(t_{.1}+t_{.2}\right)$	0	0	0	0
$\overset{1^-}{.}\mathcal{A}^{\parallel}\,\dagger^{\alpha}$	0	0	0	$-k^2\,r_{.1}-\frac{t_{.1}}{2}$	$\frac{t_{.1}}{\sqrt{2}}$	0	$i\,k\,t_{.1}$
$\overset{1^-}{.}\mathcal{A}^{\perp}\,\dagger^{\alpha}$	0	0	0	$\frac{t_{.1}}{\sqrt{2}}$	0	0	0
$\overset{1^-}{.}f^{\parallel}\,\dagger^{\alpha}$	0	0	0	0	0	0	0
$\overset{1^-}{.}f^{\perp}\,\dagger^{\alpha}$	0	0	0	$-i\,k\,t_{.1}$	0	0	0

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

Saturated propagator

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

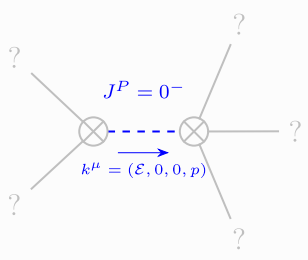
	$\overset{1^+}{.}\sigma^{\parallel}{}_{\alpha\beta}$	$\overset{1^+}{.}\sigma^{\perp}{}_{\alpha\beta}$	$\overset{1^+}{.}\tau^{\parallel}{}_{\alpha\beta}$	$\overset{1^-}{.}\sigma^{\parallel}{}_{\alpha}$	$\overset{1^-}{.}\sigma^{\perp}{}_{\alpha}$	$\overset{1^-}{.}\tau^{\parallel}{}_{\alpha}$	$\overset{1^-}{.}\tau^{\perp}{}_{\alpha}$
$\overset{1^+}{.}\sigma^{\parallel}\,\dagger^{\alpha\beta}$	$\frac{2\left(t_{.1}+t_{.2}\right)}{3\,t_{.1}\,t_{.2}}$	$\frac{\sqrt{2}\left(t_{.1}-2\,t_{.2}\right)}{3\left(1+k^2\right)t_{.1}\,t_{.2}}$	$\frac{i\sqrt{2}\,k\left(t_{.1}-2\,t_{.2}\right)}{3\left(1+k^2\right)t_{.1}\,t_{.2}}$	0	0	0	0
$\overset{1^+}{.}\sigma^{\perp}\,\dagger^{\alpha\beta}$	$\frac{\sqrt{2}\left(t_{.1}-2\,t_{.2}\right)}{3\left(1+k^2\right)t_{.1}\,t_{.2}}$	$\frac{t_{.1}+4\,t_{.2}}{3\left(1+k^2\right)^2 t_{.1}\,t_{.2}}$	$\frac{i\,k\left(t_{.1}+4\,t_{.2}\right)}{3\left(1+k^2\right)^2 t_{.1}\,t_{.2}}$	0	0	0	0
$\overset{1^+}{.}\tau^{\parallel}\,\dagger^{\alpha\beta}$	$-\frac{i\sqrt{2}\,k\left(t_{.1}-2\,t_{.2}\right)}{3\left(1+k^2\right)t_{.1}\,t_{.2}}$	$-\frac{i\,k\left(t_{.1}+4\,t_{.2}\right)}{3\left(1+k^2\right)^2 t_{.1}\,t_{.2}}$	$\frac{k^2\left(t_{.1}+4\,t_{.2}\right)}{3\left(1+k^2\right)^2 t_{.1}\,t_{.2}}$	0	0	0	0
$\overset{1^-}{.}\sigma^{\parallel}\,\dagger^{\alpha}$	0	0	0	0	$\frac{\sqrt{2}}{t_{.1}+2\,k^2\,t_{.1}}$	0	$\frac{2\,i\,k}{t_{.1}+2\,k^2\,t_{.1}}$
$\overset{1^-}{.}\sigma^{\perp}\,\dagger^{\alpha}$	0	0	0	$\frac{\sqrt{2}}{t_{.1}+2\,k^2\,t_{.1}}$	$\frac{2\,k^2\,r_{.1}+t_{.1}}{\left(t_{.1}+2\,k^2\,t_{.1}\right)^2}$	0	$\frac{i\sqrt{2}\,k\left(2\,k^2\,r_{.1}+t_{.1}\right)}{\left(t_{.1}+2\,k^2\,t_{.1}\right)^2}$
$\overset{1^-}{.}\tau^{\parallel}\,\dagger^{\alpha}$	0	0	0	0	0	0	0
$\overset{1^-}{.}\tau^{\perp}\,\dagger^{\alpha}$	0	0	0	$-\frac{2\,i\,k}{t_{.1}+2\,k^2\,t_{.1}}$	$-\frac{i\sqrt{2}\,k\left(2\,k^2\,r_{.1}+t_{.1}\right)}{\left(t_{.1}+2\,k^2\,t_{.1}\right)^2}$	0	$\frac{2\,k^2\left(2\,k^2\,r_{.1}+t_{.1}\right)}{\left(t_{.1}+2\,k^2\,t_{.1}\right)^2}$

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

Source constraints

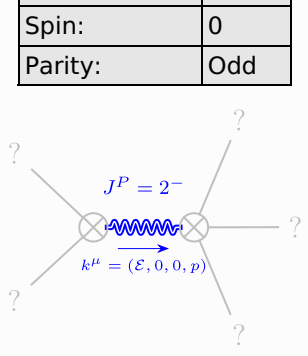
Spin-parity form	Covariant form	Multiplicities
$\overset{0^+}{.}\tau^{\perp}$ == 0	$\partial_\beta\partial_\alpha\tau\,(\Delta+\mathcal{K})^{\alpha\beta}$ == 0	1
$-2\,i\,k\,\overset{0^+}{.}\sigma^{\parallel}+\overset{0^+}{.}\tau^{\parallel}$ == 0	$\partial_\beta\partial_\alpha\tau\,(\Delta+\mathcal{K})^{\alpha\beta}$ == $\partial_\beta\partial^\beta\tau\,(\Delta+\mathcal{K})^{\alpha}{}_{\alpha}+2\,\partial_\chi\partial^\chi\partial_\beta\sigma^{\alpha}{}_{\alpha}{}^{\beta}$	1
$2\,i\,k\,\overset{1^-}{.}\sigma^{\perp}{}^{\alpha}+\overset{1^-}{.}\tau^{\perp}{}^{\alpha}$ == 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
$\overset{1^-}{.}\tau^{\parallel}{}^{\alpha}$ == 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
$i\,k\,\overset{1^+}{.}\sigma^{\perp}{}^{\alpha\beta}+\overset{1^+}{.}\tau^{\parallel}{}^{\alpha\beta}$ == 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
$-2\,i\,k\,\overset{2^+}{.}\sigma^{\parallel}{}^{\alpha\beta}+\overset{2^+}{.}\tau^{\parallel}{}^{\alpha\beta}$ == 0	$-i\left(4\,\partial_\delta\partial_\chi\partial^\beta\partial^\alpha\tau\,(\Delta+\mathcal{K})^{\chi\delta}+2\,\partial_\delta\partial^\delta\partial^\beta\partial^\alpha\tau\,(\Delta+\mathcal{K})^{\chi}{}_{\chi}-3\,\partial_\delta\partial^\delta\partial_\chi\partial^\alpha\tau\,(\Delta+\mathcal{K})^{\beta\chi}-3\,\partial_\delta\partial^\delta\partial_\chi\partial^\beta\tau\,(\Delta+\mathcal{K})^{\alpha\chi}+3\,\partial_\delta\partial^\delta\partial_\chi\partial^\chi\tau\,(\Delta+\mathcal{K})^{\alpha\beta}+3\,\partial_\delta\partial^\delta\partial_\chi\partial^\chi\tau\,(\Delta+\mathcal{K})^{\beta\alpha}+4\,i\,k^\chi\,\partial_\epsilon\partial_\chi\partial^\beta\partial^\alpha\sigma^{\delta}{}_{\delta}{}^{\epsilon}-6\,i\,k^\chi\,\partial_\epsilon\partial_\delta\partial_\chi\partial^\alpha\sigma^{\delta\beta\epsilon}-6\,i\,k^\chi\,\partial_\epsilon\partial_\delta\partial_\chi\partial^\beta\sigma^{\delta\alpha\epsilon}+6\,i\,k^\chi\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial_\chi\sigma^{\alpha\beta\delta}+6\,i\,k^\chi\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial_\chi\sigma^{\beta\alpha\delta}+2\,\eta^{\alpha\beta}\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial_\chi\tau\,(\Delta+\mathcal{K})^{\chi\delta}-2\,\eta^{\alpha\beta}\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\delta\tau\,(\Delta+\mathcal{K})^{\chi}{}_{\chi}-4\,i\,\eta^{\alpha\beta}\,k^\chi\,\partial_\phi\partial^\phi\partial_\epsilon\partial_\chi\sigma^{\delta}{}_{\delta}{}^{\epsilon}\right)$ == 0	5
Total expected gauge generators:		16

Massive spectrum



Massive particle

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



Massive particle

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

Massless spectrum

(There are no massless particles)

Gauge symmetries

(Not yet implemented in PSALTer)

Unitarity conditions

$r_{.2} < 0$ && $t_{.2} > 0$ && $r_{.1} < 0$ && $t_{.1} > 0$

Validity assumptions

(Not yet implemented in PSALTer)