PSALTer results panel

$$\mathcal{S} == \iiint\!\!\iint \left(\frac{1}{6}\left(6\,t_{1\cdot}\,\mathcal{A}^{\alpha\iota}{}_{\alpha}\,\mathcal{A}_{\iota}{}^{\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\cdot}\,\mathcal{A}_{\alpha}{}^{\theta}{}_{\theta}\,\partial_{\iota}f^{\alpha\iota} + 12\,t_{1\cdot}\,\mathcal{A}_{\iota}{}^{\theta}{}_{\theta}\,\partial^{\iota}f^{\alpha}{}_{\alpha} - 6\,t_{1\cdot}\,\partial_{\iota}f^{\theta}{}_{\theta}\partial^{\iota}f^{\alpha}{}_{\alpha} - 6\,t_{1\cdot}\,\partial_{\iota}f^{\alpha\iota}\partial_{\theta}f_{\alpha}{}^{\theta} + 12\,t_{1\cdot}\,\partial^{\iota}f^{\alpha}{}_{\alpha}\partial_{\theta}f_{\iota}{}^{\theta} + 8\,r_{2\cdot}\,\partial_{\beta}\mathcal{A}_{\alpha\iota\theta}\partial^{\theta}\mathcal{A}^{\alpha\beta\iota} - 4\,r_{2\cdot}\,\partial_{\beta}\mathcal{A}_{\alpha\theta\iota}\partial^{\theta}\mathcal{A}^{\alpha\beta\iota} + 4\,r_{2\cdot}\,\partial_{\beta}\mathcal{A}_{\iota\theta\alpha}\partial^{\theta}\mathcal{A}^{\alpha\beta\iota} - 2\,r_{2\cdot}\,\partial_{\iota}\mathcal{A}_{\alpha\beta\theta}\partial^{\theta}\mathcal{A}^{\alpha\beta\iota} + 2\,r_{2\cdot}\,\partial_{\theta}\mathcal{A}_{\alpha\beta\iota}\partial^{\theta}\mathcal{A}^{\alpha\beta\iota} - 4\,r_{2\cdot}\,\partial_{\theta}\mathcal{A}_{\alpha\iota\beta}\partial^{\theta}\mathcal{A}^{\alpha\beta\iota} + 4\,t_{1\cdot}\,\mathcal{A}_{\iota\theta\alpha}\,\partial^{\theta}f^{\alpha\iota} + 4\,t_{2\cdot}\,\mathcal{A}_{\iota\theta\alpha}\,\partial^{\theta}f^{\alpha\iota} - 4\,t_{1\cdot}\,\partial_{\alpha}f_{\iota\theta}\partial^{\theta}f^{\alpha\iota} + 2\,t_{2\cdot}\,\partial_{\alpha}f_{\iota\theta}\,\partial^{\theta}f^{\alpha\iota} - 4\,t_{1\cdot}\,\partial_{\alpha}f_{\theta\iota}\partial^{\theta}f^{\alpha\iota} - t_{2\cdot}\,\partial_{\alpha}f_{\theta\iota}\partial^{\theta}f^{\alpha\iota} + 2\,t_{1\cdot}\,\partial_{\iota}f_{\alpha\theta}\partial^{\theta}f^{\alpha\iota} - t_{2\cdot}\,\partial_{\iota}f_{\alpha\theta}\partial^{\theta}f^{\alpha\iota} + 4\,t_{1\cdot}\,\partial_{\theta}f_{\alpha\iota}\partial^{\theta}f^{\alpha\iota} + t_{2\cdot}\,\partial_{\theta}f_{\alpha\iota}\partial^{\theta}f^{\alpha\iota} + 2\,t_{1\cdot}\,\partial_{\theta}f_{\iota\alpha}\partial^{\theta}f^{\alpha\iota} - t_{2\cdot}\,\partial_{\theta}f_{\iota\alpha}\partial^{\theta}f^{\alpha\iota} + 2\,(t_{1\cdot}+t_{2\cdot})\,\mathcal{A}_{\alpha\iota\theta}\,(\mathcal{A}^{\alpha\iota\theta} + 2\,\partial^{\theta}f^{\alpha\iota}) + 2\,\mathcal{A}_{\alpha\theta\iota}\,((t_{1\cdot}-2\,t_{2\cdot})\,\mathcal{A}^{\alpha\iota\theta} + 2\,(2\,t_{1\cdot}-t_{2\cdot})\,\partial^{\theta}f^{\alpha\iota})\right))[t, x, y, z]\,dz\,dy\,dx\,dt$$

Wave operator

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

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

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

Saturated propagator

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

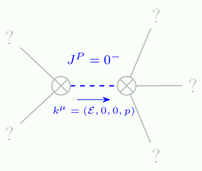
	$1^+_{\cdot}\sigma^{\parallel}{}_{\alpha\beta}$	$1^+_{\cdot}\sigma^{\perp}{}_{\alpha\beta}$	$1^+_{\cdot}\tau^{\parallel}{}_{\alpha\beta}$	$1^-_{\cdot}\sigma^{\parallel}{}_{\alpha}$	$1^-_{\cdot}\sigma^{\perp}{}_{\alpha}$	$1^-_{\cdot}\tau^{\parallel}{}_{\alpha}$	$1^-_{\cdot}\tau^{\perp}{}_{\alpha}$
$1^+_{\cdot}\sigma^{\parallel}\,\dagger^{\alpha\beta}$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

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

Source constraints

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

Massive spectrum



Massive particle

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

Massless spectrum

(No particles)

Unitarity conditions

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