PSALTer results panel

$$\mathcal{S} == \iiiint (\tfrac{1}{6}(2\,t_1\,\mathcal{A}^{\alpha\prime}{}_{\alpha}\,\mathcal{A}_{\prime}{}^{\theta}{}_{\theta} - 4\,t_3\,\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} - 4\,t_1\,\mathcal{A}_{\alpha}{}^{\theta}{}_{\theta}\,\partial_\prime f^{\alpha\prime} + 8\,t_3\,\mathcal{A}_{\alpha}{}^{\theta}{}_{\theta}\,\partial_\prime f^{\alpha\prime} + 4\,t_1\,\mathcal{A}_{\prime}{}^{\theta}{}_{\theta}\,\partial^\prime f^{\alpha}{}_{\alpha} - 8\,t_3\,\mathcal{A}_{\prime}{}^{\theta}{}_{\theta}\,\partial^\prime f^{\alpha}{}_{\alpha} - 2\,t_1\,\partial_\prime f^{\theta}{}_{\theta}\partial^\prime f^{\alpha}{}_{\alpha} + 4\,t_3\,\partial_\prime f^{\theta}{}_{\theta}\partial^\prime f^{\alpha}{}_{\alpha} - 2\,t_1\,\partial_\prime f^{\alpha\prime}\partial_\theta f_{\alpha}{}^{\theta} + 4\,t_3\,\partial_\prime f^{\alpha\prime}\partial_\theta f_{\alpha}{}^{\theta} + 4\,t_1\,\partial^\prime f^{\alpha}{}_{\alpha}\partial_\theta f_{\prime}{}^{\theta} - 8\,t_3\,\partial^\prime f^{\alpha}{}_{\alpha}\partial_\theta f_{\prime}{}^{\theta} + 8\,r_2\,\partial_\beta\mathcal{A}_{\iota\theta}\partial^\theta\mathcal{A}^{\alpha\beta\prime} - 4\,r_2\,\partial_\beta\mathcal{A}_{\alpha\theta\prime}\partial^\theta\mathcal{A}^{\alpha\beta\prime} + 4\,r_2\,\partial_\beta\mathcal{A}_{\prime\theta\alpha}\partial^\theta\mathcal{A}^{\alpha\beta\prime} - 2\,r_2\,\partial_\prime\mathcal{A}_{\alpha\beta\theta}\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_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} - 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\,(t_1+t_2)\,\mathcal{A}_{\alpha\prime\theta}\,(\mathcal{A}^{\alpha\prime\theta} + 2\,\partial^\theta f^{\alpha\prime}) + 2\,\mathcal{A}_{\alpha\theta\prime}\,((t_1-2\,t_2)\,\mathcal{A}^{\alpha\prime\theta} + 2\,(2\,t_1-t_2)\,\partial^\theta f^{\alpha\prime})))[t,x,y,z]\,dt\,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_3	$-i\sqrt{2}\,k\,t_3$	0	0
$0^+_{\cdot}f^{\parallel}\dagger$	$i\sqrt{2}\,k\,t_3$	$2\,k^2\,t_3$	0	0
$0^+_{\cdot}f^{\perp}\dagger$	0	0	0	0
$0^-_{\cdot}\mathcal{A}^{\parallel}\dagger$	0	0	0	$k^2\,r_2 + t_2$

	$1^+_{\cdot}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$1^+_{\cdot}\mathcal{A}^{\perp}{}_{\alpha\beta}$	$1^+_{\cdot}f^{\parallel}{}_{\alpha\beta}$	$1^-_{\cdot}\mathcal{A}^{\parallel}{}_{\alpha}$	$1^-_{\cdot}\mathcal{A}^{\perp}{}_{\alpha}$	$1^-_{\cdot}f^{\parallel}{}_{\alpha}$	$1^-_{\cdot}f^{\perp}{}_{\alpha}$
$1^+_{\cdot}\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$\frac{1}{6}(t_1+4\,t_2)$	$-\frac{t_1-2\,t_2}{3\sqrt{2}}$	$-\frac{i\,k\,(t_1-2\,t_2)}{3\sqrt{2}}$	0	0	0	0
$1^+_{\cdot}\mathcal{A}^{\perp}\dagger^{\alpha\beta}$	$-\frac{t_1-2\,t_2}{3\sqrt{2}}$	$\frac{t_1+t_2}{3}$	$\frac{1}{3}\,i\,k\,(t_1+t_2)$	0	0	0	0
$1^+_{\cdot}f^{\parallel}\dagger^{\alpha\beta}$	$\frac{i\,k\,(t_1-2\,t_2)}{3\sqrt{2}}$	$-\frac{1}{3}\,i\,k\,(t_1+t_2)$	$\frac{1}{3}\,k^2\,(t_1+t_2)$	0	0	0	0
$1^-_{\cdot}\mathcal{A}^{\parallel}\dagger^{\alpha}$	0	0	0	$\frac{1}{6}(t_1+4\,t_3)$	$\frac{t_1-2\,t_3}{3\sqrt{2}}$	0	$\frac{1}{3}\,i\,k\,(t_1-2\,t_3)$
$1^-_{\cdot}\mathcal{A}^{\perp}\dagger^{\alpha}$	0	0	0	$\frac{t_1-2\,t_3}{3\sqrt{2}}$	$\frac{t_1+t_3}{3}$	0	$\frac{1}{3}\,i\sqrt{2}\,k\,(t_1+t_3)$
$1^-_{\cdot}f^{\parallel}\dagger^{\alpha}$	0	0	0	0	0	0	0
$1^-_{\cdot}f^{\perp}\dagger^{\alpha}$	0	0	0	$-\frac{1}{3}\,i\,k\,(t_1-2\,t_3)$	$-\frac{1}{3}\,i\sqrt{2}\,k\,(t_1+t_3)$	0	$\frac{2}{3}\,k^2\,(t_1+t_3)$

	$2^+_{\cdot}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$2^+_{\cdot}f^{\parallel}{}_{\alpha\beta}$	$2^-_{\cdot}\mathcal{A}^{\parallel}{}_{\alpha\beta\chi}$
$2^+_{\cdot}\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$\frac{t_1}{2}$	$-\frac{i\,k\,t_1}{\sqrt{2}}$	0
$2^+_{\cdot}f^{\parallel}\dagger^{\alpha\beta}$	$\frac{i\,k\,t_1}{\sqrt{2}}$	$k^2\,t_1$	0
$2^-_{\cdot}\mathcal{A}^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	$\frac{t_1}{2}$

Saturated propagator

	$0^+_{\cdot}\sigma^{\parallel}$	$0^+_{\cdot}\tau^{\parallel}$	$0^+_{\cdot}\tau^{\perp}$	$0^-_{\cdot}\sigma^{\parallel}$
$0^+_{\cdot}\sigma^{\parallel}\dagger$	$\frac{1}{(1+2\,k^2)^2\,t_3}$	$-\frac{i\sqrt{2}\,k}{(1+2\,k^2)^2\,t_3}$	0	0
$0^+_{\cdot}\tau^{\parallel}\dagger$	$\frac{i\sqrt{2}\,k}{(1+2\,k^2)^2\,t_3}$	$\frac{2\,k^2}{(1+2\,k^2)^2\,t_3}$	0	0
$0^+_{\cdot}\tau^{\perp}\dagger$	0	0	0	0
$0^-_{\cdot}\sigma^{\parallel}\dagger$	0	0	0	$\frac{1}{k^2\,r_2+t_2}$

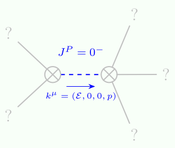
	$1^+_{\cdot}\sigma^{\parallel}{}_{\alpha\beta}$	$1^+_{\cdot}\sigma^{\perp}{}_{\alpha\beta}$	$1^+_{\cdot}\tau^{\parallel}{}_{\alpha\beta}$	$1^-_{\cdot}\sigma^{\parallel}{}_{\alpha}$	$1^-_{\cdot}\sigma^{\perp}{}_{\alpha}$	$1^-_{\cdot}\tau^{\parallel}{}_{\alpha}$	$1^-_{\cdot}\tau^{\perp}{}_{\alpha}$
$1^+_{\cdot}\sigma^{\parallel}\dagger^{\alpha\beta}$	$\frac{2\,(t_1+t_2)}{3\,t_1\,t_2}$	$\frac{\sqrt{2}\,(t_1-2\,t_2)}{3\,(1+k^2)\,t_1\,t_2}$	$\frac{i\sqrt{2}\,k\,(t_1-2\,t_2)}{3\,(1+k^2)\,t_1\,t_2}$	0	0	0	0
$1^+_{\cdot}\sigma^{\perp}\dagger^{\alpha\beta}$	$\frac{\sqrt{2}\,(t_1-2\,t_2)}{3\,(1+k^2)\,t_1\,t_2}$	$\frac{t_1+4\,t_2}{3\,(1+k^2)^2\,t_1\,t_2}$	$\frac{i\,k\,(t_1+4\,t_2)}{3\,(1+k^2)^2\,t_1\,t_2}$	0	0	0	0
$1^+_{\cdot}\tau^{\parallel}\dagger^{\alpha\beta}$	$-\frac{i\sqrt{2}\,k\,(t_1-2\,t_2)}{3\,(1+k^2)\,t_1\,t_2}$	$-\frac{i\,k\,(t_1+4\,t_2)}{3\,(1+k^2)^2\,t_1\,t_2}$	$\frac{k^2\,(t_1+4\,t_2)}{3\,(1+k^2)^2\,t_1\,t_2}$	0	0	0	0
$1^-_{\cdot}\sigma^{\parallel}\dagger^{\alpha}$	0	0	0	$\frac{2\,(t_1+t_3)}{3\,t_1\,t_3}$	$-\frac{\sqrt{2}\,(t_1-2\,t_3)}{3\,(1+2\,k^2)\,t_1\,t_3}$	0	$-\frac{2\,i\,k\,t_1-4\,i\,k\,t_3}{3\,t_1\,t_3+6\,k^2\,t_1\,t_3}$
$1^-_{\cdot}\sigma^{\perp}\dagger^{\alpha}$	0	0	0	$-\frac{\sqrt{2}\,(t_1-2\,t_3)}{3\,(1+2\,k^2)\,t_1\,t_3}$	$\frac{t_1+4\,t_3}{3\,(1+2\,k^2)^2\,t_1\,t_3}$	0	$\frac{i\sqrt{2}\,k\,(t_1+4\,t_3)}{3\,(1+2\,k^2)^2\,t_1\,t_3}$
$1^-_{\cdot}\tau^{\parallel}\dagger^{\alpha}$	0	0	0	0	0	0	0
$1^-_{\cdot}\tau^{\perp}\dagger^{\alpha}$	0	0	0	$\frac{2\,i\,k\,t_1-4\,i\,k\,t_3}{3\,t_1\,t_3+6\,k^2\,t_1\,t_3}$	$-\frac{i\sqrt{2}\,k\,(t_1+4\,t_3)}{3\,(1+2\,k^2)^2\,t_1\,t_3}$	0	$\frac{2\,k^2\,(t_1+4\,t_3)}{3\,(1+2\,k^2)^2\,t_1\,t_3}$

	$2^+_{\cdot}\sigma^{\parallel}{}_{\alpha\beta}$	$2^+_{\cdot}\tau^{\parallel}{}_{\alpha\beta}$	$2^-_{\cdot}\sigma^{\parallel}{}_{\alpha\beta\chi}$
$2^+_{\cdot}\sigma^{\parallel}\dagger^{\alpha\beta}$	$\frac{2}{(1+2\,k^2)^2\,t_1}$	$-\frac{2\,i\sqrt{2}\,k}{(1+2\,k^2)^2\,t_1}$	0
$2^+_{\cdot}\tau^{\parallel}\dagger^{\alpha\beta}$	$\frac{2\,i\sqrt{2}\,k}{(1+2\,k^2)^2\,t_1}$	$\frac{4\,k^2}{(1+2\,k^2)^2\,t_1}$	0
$2^-_{\cdot}\sigma^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	$\frac{2}{t_1}$

Source constraints

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

Massless spectrum

(No particles)

Unitarity conditions

$r_2 < 0\ \&\&\ t_2 > 0$