PSALTer results panel

$$\mathcal{S} == \iiint\int (\frac{1}{6}(6\,\mathcal{A}^{\alpha\beta\chi}\,\sigma_{\alpha\beta\chi} + 6\,f^{\alpha\beta}\,\tau(\Delta+\mathcal{K})_{\alpha\beta} - 18\,r_{\cdot 3}\,\partial_\beta\mathcal{A}_\iota{}^\theta{}_\theta\,\partial^\iota\mathcal{A}^{\alpha\beta}{}_\alpha - 6\,r_{\cdot 3}\,\partial_\iota\mathcal{A}_\beta{}^\theta{}_\theta\,\partial^\iota\mathcal{A}^{\alpha\beta}{}_\alpha - 6\,r_{\cdot 3}\,\partial_\alpha\mathcal{A}^{\alpha\beta\iota}\,\partial_\theta\mathcal{A}_\beta{}^\theta{}_\iota + 12\,r_{\cdot 3}\,\partial^\iota\mathcal{A}^{\alpha\beta}{}_\alpha\,\partial_\theta\mathcal{A}_\beta{}^\theta{}_\iota - 18\,r_{\cdot 3}\,\partial_\alpha\mathcal{A}^{\alpha\beta\iota}\,\partial_\theta\mathcal{A}_\iota{}^\theta{}_\beta + 36\,r_{\cdot 3}\,\partial^\iota\mathcal{A}^{\alpha\beta}{}_\alpha\,\partial_\theta\mathcal{A}_\iota{}^\theta{}_\beta + 8\,r_{\cdot 2}\,\partial_\beta\mathcal{A}_{\alpha\iota\theta}\,\partial^\theta\mathcal{A}^{\alpha\beta\iota} - 4\,r_{\cdot 2}\,\partial_\beta\mathcal{A}_{\alpha\theta\iota}\,\partial^\theta\mathcal{A}^{\alpha\beta\iota} + 4\,r_{\cdot 2}\,\partial_\beta\mathcal{A}_{\iota\theta\alpha}\,\partial^\theta\mathcal{A}^{\alpha\beta\iota} - 24\,r_{\cdot 3}\,\partial_\beta\mathcal{A}_{\iota\theta\alpha}\,\partial^\theta\mathcal{A}^{\alpha\beta\iota} - 2\,r_{\cdot 2}\,\partial_\iota\mathcal{A}_{\alpha\beta\theta}\,\partial^\theta\mathcal{A}^{\alpha\beta\iota} + 2\,r_{\cdot 2}\,\partial_\theta\mathcal{A}_{\alpha\beta\iota}\,\partial^\theta\mathcal{A}^{\alpha\beta\iota} - 4\,r_{\cdot 2}\,\partial_\theta\mathcal{A}_{\alpha\iota\beta}\,\partial^\theta\mathcal{A}^{\alpha\beta\iota} + 4\,t_{\cdot 2}\,\mathcal{A}_{\iota\theta\alpha}\,\partial^\theta f^{\alpha\iota} + 2\,t_{\cdot 2}\,\partial_\alpha f_{\iota\theta}\,\partial^\theta f^{\alpha\iota} - t_{\cdot 2}\,\partial_\alpha f_{\theta\iota}\,\partial^\theta f^{\alpha\iota} - t_{\cdot 2}\,\partial_\iota f_{\alpha\theta}\,\partial^\theta f^{\alpha\iota} + t_{\cdot 2}\,\partial_\theta f_{\alpha\iota}\,\partial^\theta f^{\alpha\iota} - t_{\cdot 2}\,\partial_\theta f_{\iota\alpha}\,\partial^\theta f^{\alpha\iota} - 4\,t_{\cdot 2}\,\mathcal{A}_{\alpha\theta\iota}\,(\mathcal{A}^{\alpha\iota\theta} + \partial^\theta f^{\alpha\iota}) + 2\,t_{\cdot 2}\,\mathcal{A}_{\alpha\iota\theta}\,(\mathcal{A}^{\alpha\iota\theta} + 2\,\partial^\theta f^{\alpha\iota})))[t, x, y, z]\,dz\,dy\,dx\,dt$$

Wave operator

	$0^+_{\cdot}\mathcal{A}^\parallel$	$0^+_{\cdot}f^\parallel$	$0^+_{\cdot}f^\perp$	$0^-_{\cdot}\mathcal{A}^\parallel$
$0^+_{\cdot}\mathcal{A}^\parallel\,\dagger$	$6k^2 r_{\cdot 3}$	0	0	0
$0^+_{\cdot}f^\parallel\,\dagger$	0	0	0	0
$0^+_{\cdot}f^\perp\,\dagger$	0	0	0	0
$0^-_{\cdot}\mathcal{A}^\parallel\,\dagger$	0	0	0	$k^2 r_{\cdot 2} + t_{\cdot 2}$

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

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

Saturated propagator

	$0^+_{\cdot}\sigma^\parallel$	$0^+_{\cdot}\tau^\parallel$	$0^+_{\cdot}\tau^\perp$	$0^-_{\cdot}\sigma^\parallel$
$0^+_{\cdot}\sigma^\parallel\,\dagger$	$\frac{1}{6k^2 r_{\cdot 3}}$	0	0	0
$0^+_{\cdot}\tau^\parallel\,\dagger$	0	0	0	0
$0^+_{\cdot}\tau^\perp\,\dagger$	0	0	0	0
$0^-_{\cdot}\sigma^\parallel\,\dagger$	0	0	0	$\frac{1}{k^2 r_{\cdot 2} + t_{\cdot 2}}$

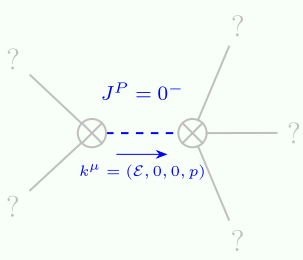
	$1^+_{\cdot}\sigma^\parallel{}_{\alpha\beta}$	$1^+_{\cdot}\sigma^\perp{}_{\alpha\beta}$	$1^+_{\cdot}\tau^\parallel{}_{\alpha\beta}$	$1^-_{\cdot}\sigma^\parallel{}_\alpha$	$1^-_{\cdot}\sigma^\perp{}_\alpha$	$1^-_{\cdot}\tau^\parallel{}_\alpha$	$1^-_{\cdot}\tau^\perp{}_\alpha$
$1^+_{\cdot}\sigma^\parallel\,\dagger^{\alpha\beta}$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

	$2^+_{\cdot}\sigma^\parallel{}_{\alpha\beta}$	$2^+_{\cdot}\tau^\parallel{}_{\alpha\beta}$	$2^-_{\cdot}\sigma^\parallel{}_{\alpha\beta\chi}$
$2^+_{\cdot}\sigma^\parallel\,\dagger^{\alpha\beta}$	0	0	0
$2^+_{\cdot}\tau^\parallel\,\dagger^{\alpha\beta}$	0	0	0
$2^-_{\cdot}\sigma^\parallel\,\dagger^{\alpha\beta\chi}$	0	0	0

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
$0^+_{\cdot}\tau^\parallel == 0$	$\partial_\beta\partial_\alpha\tau(\Delta+\mathcal{K})^{\alpha\beta} == \partial_\beta\partial^\beta\tau(\Delta+\mathcal{K})^\alpha{}_\alpha$	1
$1^-_{\cdot}\tau^{\perp\,\alpha} == 0$	$\partial_\chi\partial_\beta\partial^\alpha\tau(\Delta+\mathcal{K})^{\beta\chi} == \partial_\chi\partial^\chi\partial_\beta\tau(\Delta+\mathcal{K})^{\alpha\beta}$	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
$1^-_{\cdot}\sigma^{\perp\,\alpha} == 0$	$\partial_\chi\partial_\beta\sigma^{\beta\alpha\chi} == 0$	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
$2^-_{\cdot}\sigma^{\parallel\,\alpha\beta\chi} == 0$	$3\,\partial_\epsilon\partial_\delta\partial^\chi\partial^\alpha\sigma^{\delta\beta\epsilon} + 3\,\partial_\epsilon\partial^\epsilon\partial^\chi\partial^\alpha\sigma^{\delta\beta}{}_\delta + 2\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\beta\sigma^{\alpha\chi\delta} + 4\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\beta\sigma^{\chi\alpha\delta} + 2\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\chi\sigma^{\beta\alpha\delta} + 4\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\chi\sigma^{\delta\alpha\beta} + 2\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\delta\sigma^{\alpha\beta\chi} + 3\,\eta^{\beta\chi}\,\partial_\phi\partial^\phi\partial_\epsilon\partial^\alpha\sigma^\delta{}_\delta{}^\epsilon + 3\,\eta^{\alpha\chi}\,\partial_\phi\partial^\phi\partial_\epsilon\partial_\delta\sigma^{\delta\beta\epsilon} + 3\,\eta^{\beta\chi}\,\partial_\phi\partial^\phi\partial_\epsilon\partial^\epsilon\sigma^{\delta\alpha}{}_\delta == 3\,\partial_\epsilon\partial_\delta\partial^\chi\partial^\beta\sigma^{\delta\alpha\epsilon} + 3\,\partial_\epsilon\partial^\epsilon\partial^\chi\partial^\beta\sigma^{\delta\alpha}{}_\delta + 2\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\alpha\sigma^{\beta\chi\delta} + 4\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\chi\sigma^{\delta\alpha\beta} + 2\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\delta\sigma^{\alpha\beta\chi} + 3\,\eta^{\beta\chi}\,\partial_\phi\partial^\phi\partial_\epsilon\partial^\beta\sigma^\delta{}_\delta{}^\epsilon + 3\,\eta^{\alpha\chi}\,\partial_\phi\partial^\phi\partial_\epsilon\partial_\delta\sigma^{\delta\alpha\epsilon} + 3\,\eta^{\beta\chi}\,\partial_\phi\partial^\phi\partial_\epsilon\partial^\epsilon\sigma^{\delta\alpha}{}_\delta + 3\,\eta^{\alpha\chi}\,\partial_\phi\partial^\phi\partial_\epsilon\partial^\epsilon\sigma^{\delta\beta}{}_\delta$	5
$2^+_{\cdot}\tau^{\parallel\,\alpha\beta} == 0$	$4\,\partial_\delta\partial_\chi\partial^\beta\partial^\alpha\tau(\Delta+\mathcal{K})^{\chi\delta} + 2\,\partial_\delta\partial^\delta\partial^\beta\partial^\alpha\tau(\Delta+\mathcal{K})^\chi{}_\chi + 3\,\partial_\delta\partial^\delta\partial_\chi\partial^\chi\tau(\Delta+\mathcal{K})^{\alpha\beta} + 3\,\partial_\delta\partial^\delta\partial_\chi\partial^\chi\tau(\Delta+\mathcal{K})^{\beta\alpha} + 2\,\eta^{\alpha\beta}\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial_\chi\tau(\Delta+\mathcal{K})^{\chi\delta} == 3\,\partial_\delta\partial^\delta\partial_\chi\partial^\alpha\tau(\Delta+\mathcal{K})^{\beta\chi} + 3\,\partial_\delta\partial^\delta\partial_\chi\partial^\alpha\tau(\Delta+\mathcal{K})^{\chi\beta} + 3\,\partial_\delta\partial^\delta\partial_\chi\partial^\beta\tau(\Delta+\mathcal{K})^{\alpha\chi} + 3\,\partial_\delta\partial^\delta\partial_\chi\partial^\beta\tau(\Delta+\mathcal{K})^{\chi\alpha} + 2\,\eta^{\alpha\beta}\,\partial_\epsilon\partial^\epsilon\partial_\delta\partial^\delta\tau(\Delta+\mathcal{K})^\chi{}_\chi$	5
$2^+_{\cdot}\sigma^{\parallel\,\alpha\beta} == 0$	$3\,\partial_\delta\partial_\chi\partial^\alpha\sigma^{\chi\beta\delta} + 3\,\partial_\delta\partial_\chi\partial^\beta\sigma^{\chi\alpha\delta} + 2\,\eta^{\alpha\beta}\,\partial_\epsilon\partial^\epsilon\partial_\delta\sigma^\chi{}_\chi{}^\delta == 2\,\partial_\delta\partial^\beta\partial^\alpha\sigma^\chi{}_\chi{}^\delta + 3\,(\partial_\delta\partial^\delta\partial_\chi\sigma^{\alpha\beta\chi} + \partial_\delta\partial^\delta\partial_\chi\sigma^{\beta\alpha\chi})$	5
Total expected gauge generators:		29

Massive spectrum



Massive particle

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

Massless spectrum

(No particles)

Unitarity conditions

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