PSALTer results panel

$$\mathcal{S} == \int\int\int\int (\frac{1}{6} (2 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} - 4 t_{1}. \mathcal{A}_{\alpha}{}^{\theta}{}_{\theta} \partial_{\prime} f^{\alpha\prime} - 24 r_{3}. \partial_{\beta} \mathcal{A}_{\prime}{}^{\theta}{}_{\theta} \partial^{\prime} \mathcal{A}^{\alpha\beta}{}_{\alpha} + 4 t_{1}. \mathcal{A}_{\prime}{}^{\theta}{}_{\theta} \partial^{\prime} f^{\alpha}{}_{\alpha} - 2 t_{1}. \partial_{\prime} f^{\theta}{}_{\theta} \partial^{\prime} f^{\alpha}{}_{\alpha} - 24 r_{3}. \partial_{\alpha} \mathcal{A}^{\alpha\beta\prime} \partial_{\theta} \mathcal{A}_{\prime}{}^{\theta}{}_{\beta} + 48 r_{3}. \partial^{\prime} \mathcal{A}^{\alpha\beta}{}_{\alpha} \partial_{\theta} \mathcal{A}_{\prime}{}^{\theta}{}_{\beta} - 2 t_{1}. \partial_{\prime} f^{\alpha\prime} \partial_{\theta} f_{\alpha}{}^{\theta} + 4 t_{1}. \partial^{\prime} f^{\alpha}{}_{\alpha} \partial_{\theta} f_{\prime}{}^{\theta} + 8 r_{2}. \partial_{\beta} \mathcal{A}_{\alpha\prime\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} - 24 r_{3}. \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} - 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 (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] dz dy dx dt$$

Wave operator

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

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

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

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

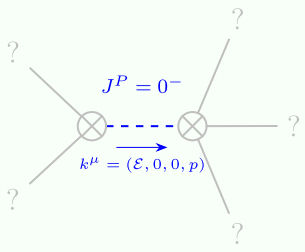
	$1^+_{\cdot}\sigma^{\parallel}{}_{\alpha\beta}$	$1^+_{\cdot}\sigma^{\perp}{}_{\alpha\beta}$	$1^+_{\cdot}\tau^{\parallel}{}_{\alpha\beta}$	$1^-_{\cdot}\sigma^{\parallel}{}_{\alpha}$	$1^-_{\cdot}\sigma^{\perp}{}_{\alpha}$	$1^-_{\cdot}\tau^{\parallel}{}_{\alpha}$	$1^-_{\cdot}\tau^{\perp}{}_{\alpha}$
$1^+_{\cdot}\sigma^{\parallel}\dagger^{\alpha\beta}$	$\frac{2 (t_{1}. + t_{2}.)}{3 t_{1}. t_{2}.}$	$\frac{\sqrt{2} (t_{1}. - 2 t_{2}.)}{3 (1+k^2) t_{1}. t_{2}.}$	$\frac{i \sqrt{2} k (t_{1}. - 2 t_{2}.)}{3 (1+k^2) t_{1}. t_{2}.}$	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	$\frac{6}{(3+4 k^2)^2 t_{1}.}$	$\frac{6\sqrt{2}}{(3+4 k^2)^2 t_{1}.}$	0	$\frac{12 i k}{(3+4 k^2)^2 t_{1}.}$
$1^-_{\cdot}\sigma^{\perp}\dagger^{\alpha}$	0	0	0	$\frac{6\sqrt{2}}{(3+4 k^2)^2 t_{1}.}$	$\frac{12}{(3+4 k^2)^2 t_{1}.}$	0	$\frac{12 i \sqrt{2} k}{(3+4 k^2)^2 t_{1}.}$
$1^-_{\cdot}\tau^{\parallel}\dagger^{\alpha}$	0	0	0	0	0	0	0
$1^-_{\cdot}\tau^{\perp}\dagger^{\alpha}$	0	0	0	$-\frac{12 i k}{(3+4 k^2)^2 t_{1}.}$	$-\frac{12 i \sqrt{2} k}{(3+4 k^2)^2 t_{1}.}$	0	$\frac{24 k^2}{(3+4 k^2)^2 t_{1}.}$

	$2^+_{\cdot}\sigma^{\parallel}{}_{\alpha\beta}$	$2^+_{\cdot}\tau^{\parallel}{}_{\alpha\beta}$	$2^-_{\cdot}\sigma^{\parallel}{}_{\alpha\beta\chi}$
$2^+_{\cdot}\sigma^{\parallel}\dagger^{\alpha\beta}$	$\frac{2}{(1+2 k^2)^2 t_{1}.}$	$-\frac{2 i \sqrt{2} k}{(1+2 k^2)^2 t_{1}.}$	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
$0^+_{\cdot}\tau^{\parallel} == 0$	$\partial_{\beta}\partial_{\alpha}\tau (\Delta+\mathcal{K})^{\alpha\beta} == \partial_{\beta}\partial^{\beta}\tau (\Delta+\mathcal{K})^{\alpha}{}_{\alpha}$	1
$2 i k \, 1^-_{\cdot}\sigma^{\parallel\alpha} + 1^-_{\cdot}\tau^{\perp\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau (\Delta+\mathcal{K})^{\beta\chi} + 2 (\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\beta}{}_{\beta}{}^{\chi} - \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi} + \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\sigma^{\beta\alpha}{}_{\beta}) == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau (\Delta+\mathcal{K})^{\alpha\beta}$	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
$1^-_{\cdot}\sigma^{\parallel\alpha} == 1^-_{\cdot}\sigma^{\perp\alpha}$	$\partial_{\chi}\partial^{\alpha}\sigma^{\beta}{}_{\beta}{}^{\chi} + \partial_{\chi}\partial^{\chi}\sigma^{\beta\alpha}{}_{\beta} == 0$	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
$-2 i k \, 2^+_{\cdot}\sigma^{\parallel\alpha\beta} + 2^+_{\cdot}\tau^{\parallel\alpha\beta} == 0$	$-i (4 \partial_{\delta}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\tau (\Delta+\mathcal{K})^{\chi\delta} + 2 \partial_{\delta}\partial^{\delta}\partial^{\beta}\partial^{\alpha}\tau (\Delta+\mathcal{K})^{\chi}{}_{\chi} - 3 \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau (\Delta+\mathcal{K})^{\beta\chi} - 3 \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau (\Delta+\mathcal{K})^{\alpha\chi} + 3 \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau (\Delta+\mathcal{K})^{\alpha\beta} + 3 \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau (\Delta+\mathcal{K})^{\beta\alpha} + 4 i k^{\chi} \partial_{\epsilon}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\sigma^{\delta}{}_{\delta}{}^{\epsilon} - 6 i k^{\chi} \partial_{\epsilon}\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\delta\beta\epsilon} - 6 i k^{\chi} \partial_{\epsilon}\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\delta\alpha\epsilon} + 6 i k^{\chi} \partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\sigma^{\alpha\beta\delta} + 6 i k^{\chi} \partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\sigma^{\beta\alpha\delta} + 2 \eta^{\alpha\beta} \partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\tau (\Delta+\mathcal{K})^{\chi\delta} - 2 \eta^{\alpha\beta} \partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\tau (\Delta+\mathcal{K})^{\chi}{}_{\chi} - 4 i \eta^{\alpha\beta} k^{\chi} \partial_{\phi}\partial^{\phi}\partial_{\epsilon}\partial_{\chi}\sigma^{\delta}{}_{\delta}{}^{\epsilon}) == 0$	5
Total expected gauge generators:			19

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

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