PSALTer results panel

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

Wave operator

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

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

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

Saturated propagator

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

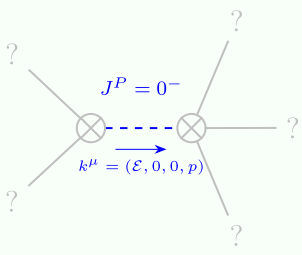
	$1^+_\cdot\sigma^{\parallel}{}_{\alpha\beta}$	$1^+_\cdot\sigma^{\perp}{}_{\alpha\beta}$	$1^+_\cdot\tau^{\parallel}{}_{\alpha\beta}$	$1^-_\cdot\sigma^{\parallel}{}_{\alpha}$	$1^-_\cdot\sigma^{\perp}{}_{\alpha}$	$1^-_\cdot\tau^{\parallel}{}_{\alpha}$	$1^-_\cdot\tau^{\perp}{}_{\alpha}$
$1^+_\cdot\sigma^{\parallel}\,\dagger^{\alpha\beta}$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

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

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
$0^+_\cdot\sigma^{\parallel} == 0$	$\partial_{\beta}\sigma^{\alpha}{}_{\alpha}{}^{\beta} == 0$	1
$2\,i\,k\;1^-_\cdot\sigma^{\parallel}{}^{\alpha} + 1^-_\cdot\tau^{\perp}{}^{\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\beta\chi} + 2\left(\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\beta}{}_{\beta}{}^{\chi} - \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi} + \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\sigma^{\beta\alpha}{}_{\beta}\right) == \partial_{\chi}\partial^{\chi}\partial_{\beta}\tau\,(\Delta+\mathcal{K})^{\alpha\beta}$	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
$-2\,i\,k\;2^+_\cdot\sigma^{\parallel}{}^{\alpha\beta} + 2^+_\cdot\tau^{\parallel}{}^{\alpha\beta} == 0$	$-i\left(4\,\partial_{\delta}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\chi\delta} + 2\,\partial_{\delta}\partial^{\delta}\partial^{\beta}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\chi}{}_{\chi} - 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau\,(\Delta+\mathcal{K})^{\beta\chi} - 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\chi\alpha} - 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\chi\alpha} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau\,(\Delta+\mathcal{K})^{\alpha\beta} + 3\,\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau\,(\Delta+\mathcal{K})^{\beta\alpha} + 4\,i\,k^{\chi}\,\partial_{\epsilon}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\sigma^{\delta}{}_{\delta}{}^{\epsilon} - 6\,i\,k^{\chi}\,\partial_{\epsilon}\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\delta\beta\epsilon} - 6\,i\,k^{\chi}\,\partial_{\epsilon}\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\delta\alpha\epsilon} + 6\,i\,k^{\chi}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\sigma^{\alpha\beta\delta} + 6\,i\,k^{\chi}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\sigma^{\beta\alpha\delta} + 2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\tau\,(\Delta+\mathcal{K})^{\chi\delta} - 2\,\eta^{\alpha\beta}\,\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\tau\,(\Delta+\mathcal{K})^{\chi}{}_{\chi} - 4\,i\,\eta^{\alpha\beta}\,k^{\chi}\,\partial_{\phi}\partial^{\phi}\partial_{\epsilon}\partial_{\chi}\sigma^{\delta}{}_{\delta}{}^{\epsilon}\right) == 0$	5
Total expected gauge generators:			20

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

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