PSALTer results panel

$$\mathcal{S} == \iiiint \Big(\mathcal{A}^{\alpha\beta\chi}\ \sigma_{\alpha\beta\chi} + f^{\alpha\beta}\ \tau(\Delta+\mathcal{K})_{\alpha\beta} + \frac{1}{3} r_{2} \left(4\,\partial_{\beta}\mathcal{A}_{\alpha\iota\theta} - 2\,\partial_{\beta}\mathcal{A}_{\alpha\theta\iota} + 2\,\partial_{\beta}\mathcal{A}_{\iota\theta\alpha} - \partial_{\iota}\mathcal{A}_{\alpha\beta\theta} + \partial_{\theta}\mathcal{A}_{\alpha\beta\iota} - 2\,\partial_{\theta}\mathcal{A}_{\alpha\iota\beta}\right) \partial^{\theta}\mathcal{A}^{\alpha\beta\iota} +$$
$$\frac{1}{2} t_{1} \Big(2\ \mathcal{A}^{\alpha\iota}{}_{\alpha}\ \mathcal{A}_{\iota}{}^{\theta}{}_{\theta} - 4\ \mathcal{A}_{\alpha}{}^{\theta}{}_{\theta}\ \partial_{\iota}f^{\alpha\iota} + 4\ \mathcal{A}_{\iota}{}^{\theta}{}_{\theta}\ \partial^{\iota}f^{\alpha}{}_{\alpha} - 2\,\partial_{\iota}f^{\theta}{}_{\theta}\partial^{\iota}f^{\alpha}{}_{\alpha} - 2\,\partial_{\iota}f^{\alpha\iota}\partial_{\theta}f_{\alpha}{}^{\theta} + 4\,\partial^{\iota}f^{\alpha}{}_{\alpha}\partial_{\theta}f_{\iota}{}^{\theta} - 2\,\partial_{\alpha}f_{\iota\theta}\partial^{\theta}f^{\alpha\iota} -$$
$$\partial_{\alpha}f_{\theta\iota}\partial^{\theta}f^{\alpha\iota} + \partial_{\iota}f_{\alpha\theta}\partial^{\theta}f^{\alpha\iota} + \partial_{\theta}f_{\alpha\iota}\partial^{\theta}f^{\alpha\iota} + \partial_{\theta}f_{\iota\alpha}\partial^{\theta}f^{\alpha\iota} + 2\ \mathcal{A}_{\alpha\theta\iota}\ (\mathcal{A}^{\alpha\iota\theta} + 2\,\partial^{\theta}f^{\alpha\iota})\Big)\Big)[t, x, y, z]\, dz\, dy\, dx\, dt$$

Wave operator

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

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

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

Saturated propagator

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

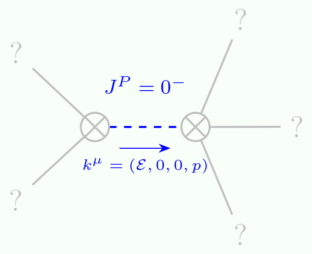
	$1^{+}\sigma^{\parallel}{}_{\alpha\beta}$	$1^{+}\sigma^{\perp}{}_{\alpha\beta}$	$1^{+}\tau^{\parallel}{}_{\alpha\beta}$	$1^{-}\sigma^{\parallel}{}_{\alpha}$	$1^{-}\sigma^{\perp}{}_{\alpha}$	$1^{-}\tau^{\parallel}{}_{\alpha}$	$1^{-}\tau^{\perp}{}_{\alpha}$
$1^{+}\sigma^{\parallel}\dagger^{\alpha\beta}$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

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

Source constraints

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

Massive spectrum



Massive particle

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

Massless spectrum

(No particles)

Unitarity conditions

$r_{2} < 0 \,\&\&\, t_{1} < 0$