PSALTer results panel

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

Wave operator

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

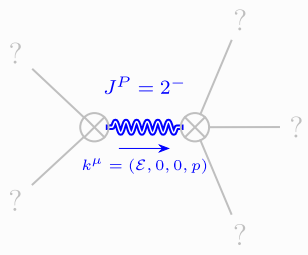
Saturated propagator

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

Source constraints

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

Massive spectrum



Massive particle

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

Massless spectrum

(There are no massless particles)

Gauge symmetries

(Not yet implemented in PSALTer)

Unitarity conditions

$r_{\cdot 1} < 0 \;\&\&\; t_{\cdot 1} > 0$

Validity assumptions

(Not yet implemented in PSALTer)