# PSALTer results panel

 $\int \int \int \int \left( -\frac{3}{6} \left( -\frac{3}{\alpha} \frac{\alpha}{\beta} \frac{\beta}{\beta} \frac{\beta}{\lambda} + 4 \frac{\beta}{1} \frac{\beta}{\beta} \frac{\beta}{\beta} \frac{\beta}{\lambda} + 4 \frac{\beta}{1} \frac{\beta}{\beta} \frac{\beta}{\beta} \frac{\beta}{\beta} \frac{\beta}{\lambda} + 4 \frac{\beta}{1} \frac{\beta}{\beta} \frac{\beta}{\beta} \frac{\beta}{\beta} \frac{\beta}{\lambda} + 4 \frac{\beta}{1} \frac{\beta}{\beta} \frac{\beta}{\lambda} \frac{\beta}{\lambda} \frac{\beta}{\beta} \frac{\beta}{\lambda} + 4 \frac{\beta}{1} \frac{\beta}{\beta} \frac{\beta}{\lambda} \frac{\beta}{\beta} \frac{\beta}{\lambda} + 4 \frac{\beta}{1} \frac{\beta}{\beta} \frac{\beta}{\lambda} \frac{\beta}{\lambda} \frac{\beta}{\beta} \frac{\beta}{\lambda} + 4 \frac{\beta}{1} \frac{\beta}{\beta} \frac{\beta}{\lambda} \frac{\beta}{\lambda} \frac{\beta}{\lambda} \frac{\beta}{\lambda} + 4 \frac{\beta}{1} \frac{\beta}{\lambda} \frac{\beta}{\lambda}$  $\alpha_{5}^{2}\partial_{\beta}\mathcal{A}_{\chi}^{\delta}\partial_{\beta}\mathcal{A}_{\alpha}^{\beta}\mathcal{A}_{\beta}^{\delta}\partial_{\beta}\mathcal{A}_{\alpha}^{\beta}\mathcal{A}_{\beta}^{\delta}\partial_{\beta}\mathcal{A}_{\alpha}^{\beta}\mathcal{A}_{\beta}^{\delta}\partial_{\beta}\mathcal{A}_{\alpha}^{\beta}\mathcal{A}_{\beta}^{\delta}\partial_{\beta}\mathcal{A}_{\alpha}^{\beta}\mathcal{A}_{\beta}^{\beta}\mathcal{A}_{\beta}^{\beta}\partial_{\beta}\mathcal{A}_{\alpha}^{\beta}\mathcal{A}_{\beta}$  $16\left(\beta_{1}^{2}-\beta_{3}^{2}\right)\partial^{3}f^{\alpha\beta}\right) + 6\alpha_{1}^{2}\partial_{\alpha}\mathcal{A}^{\alpha\beta\chi}\partial_{\delta}\mathcal{A}^{\delta}_{\beta}^{\beta} + 6\alpha_{2}^{2}\partial_{\alpha}\mathcal{A}^{\alpha\beta\chi}\partial_{\delta}\mathcal{A}^{\delta}_{\beta}^{\beta} - 12\alpha_{1}^{2}\partial^{3}\mathcal{A}^{\alpha\beta\chi}\partial_{\delta}\mathcal{A}^{\delta}_{\beta}^{\beta} - 12\alpha_{1}^{2}\partial^{3}\mathcal{A}^{\alpha\beta\chi}\partial_{\delta}\mathcal{A}^{\delta}_{\beta}^{\beta} - 12\alpha_{2}^{2}\partial^{3}\mathcal{A}^{\alpha\beta\chi}\partial_{\delta}\mathcal{A}^{\delta}_{\beta}^{\beta} - 12\alpha_{1}^{2}\partial^{3}\mathcal{A}^{\alpha\beta\chi}\partial_{\delta}\mathcal{A}^{\delta}_{\beta}^{\beta} - 12\alpha_{2}^{2}\partial^{3}\mathcal{A}^{\alpha\beta\chi}\partial_{\delta}\mathcal{A}^{\delta}_{\beta}^{\beta} - 12\alpha_{2}^{2}\partial^{3}\mathcal{A}^{\alpha\beta\chi}\partial_{\delta}\mathcal{A}^{\beta}_{\beta}^{\beta} - 12\alpha_{2}^{2}\partial^{3}\mathcal{A}^{\beta}_{\beta}^{\beta} - 12\alpha_{2}^{2}\partial^{3}\mathcal{A}$ 

#### <u>Wave</u> <u>operator</u>

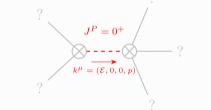
	$^{0^{+}}_{ullet}\mathcal{A}^{\parallel}$	0, f	${\stackrel{0^+}{{}_{\scriptstyle\bullet}}} f^{\perp}$	${}^{0^{-}}\!\mathcal{A}^{\parallel}$										
<sup>⊙</sup> ⁺Æ <sup>∥</sup> †		$-\frac{i\left(\alpha_{0}+2\beta_{2}\right)}{\sqrt{2}}$	<u></u>	0										
<sup>⊙</sup> *f <sup>∥</sup> †	$\frac{i\left(\alpha_{0}+2\beta_{2}\right)k}{\sqrt{2}}$	$2 \beta_{\cdot k}^2$	0	0										
<sup>0⁺</sup> <sub>•</sub> f <sup>⊥</sup> †	Θ	0	0	0										
${}^{0^{-}}_{ullet}\mathcal{R}^{\parallel}$ †	0	0	0	$\frac{\alpha_{\bullet}}{2} + 4 \beta_{\bullet} + \left(\alpha_{\bullet} + \alpha_{\bullet}\right) k^{2}$	$\stackrel{1^{+}}{\cdot}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	${}^{1^+}_{}\mathcal{A}^{\perp}{}_{\alpha\beta}$	$\frac{1}{\bullet}^{\bullet}f^{\parallel}_{\alpha\beta}$	${\stackrel{1^-}{\cdot}}\mathscr{A}^{\parallel}{}_{\alpha}$	${}^{1^{-}}_{\bullet}\mathcal{A}^{\perp}{}_{\alpha}$	$ f _{\alpha}$	${}^{1^-}_{ullet}f^{\perp}_{lpha}$			
				$^{1^{\star}}\mathcal{A}^{\parallel}$ $^{lphaeta}$	$\frac{\alpha_{\stackrel{\circ}{0}}}{4} + \frac{1}{3} \left(\beta_{\stackrel{\bullet}{1}} + 8 \; \beta_{\stackrel{\bullet}{3}}\right) + \left(\alpha_{\stackrel{\bullet}{2}} + \alpha_{\stackrel{\bullet}{5}}\right) k^2$	$\frac{3\alpha4\beta.+16\beta.}{6\sqrt{2}}$	$\frac{i\left(3\alpha_{0}-4\beta_{1}+16\beta_{3}\right)k}{6\sqrt{2}}$	0	0	0	0			
				$\overset{1^{+}}{\cdot}\mathcal{A}^{\perp} + \overset{lphaeta}{\cdot}$	$\frac{3 \alpha_{0} - 4 \beta_{1} + 16 \beta_{1}}{6 \sqrt{2}}$		$\frac{2}{3} i \left( \beta_1 + 2 \beta_3 \right) k$	0	0	0	0			
				$\overset{1^{+}}{\cdot}f^{\parallel}+\overset{\alpha\beta}{\cdot}$	$-\frac{i\left(3\alpha_{0}-4\beta_{1}+16\beta_{3}\right)k}{6\sqrt{2}}$	$-\frac{2}{3} i \left(\beta_1 + 2 \beta_3\right) k$	$\frac{2}{3}\left(\beta_{1}+2\beta_{3}\right)k^{2}$	0	0	0	0			
				$^{1}\mathcal{A}^{\parallel}$ † $^{lpha}$	0	0	0	$\frac{\alpha_{\bullet}}{4} + \frac{1}{3} \left( \beta_{\bullet} + 2 \beta_{\bullet} \right) + \left( \alpha_{\bullet} + \alpha_{\bullet} \right) k^{2}$	$2 \qquad -\frac{3\alpha4\beta.+4\beta.}{6\sqrt{2}}$	0	$-\frac{1}{6} i \left(3 \alpha_{0} - 4 \beta_{1} + 4 \beta_{2}\right) k$			
				$^{1}$ - $\mathcal{A}^{\perp}$ † $^{\alpha}$	0	Θ	0	$-\frac{3\alpha_{0}-4\beta_{1}+4\beta_{2}}{6\sqrt{2}}$	$\frac{1}{3} \left( 2 \beta_{1} + \beta_{2} \right)$	0	$\frac{1}{3} i \sqrt{2} \left( 2 \beta_{1} + \beta_{2} \right) k$			
				1- <sub>f</sub> f   † α	0	0	0	0	0	0	0			
				$\frac{1}{\cdot}f^{\perp}\uparrow^{\alpha}$	0	0	0	$\frac{1}{6} i \left(3 \alpha_{0} - 4 \beta_{1} + 4 \beta_{2}\right) k$	$-\frac{1}{3} i \sqrt{2} \left(2 \beta_1 + \beta_2\right) k$	0	$\frac{2}{3}\left(2\beta_{1}+\beta_{2}\right)k^{2}$	$^{2^{+}}_{\bullet}\mathcal{A}^{\parallel}_{lphaeta}$	${\stackrel{2^+}{\cdot}}f^{\parallel}_{\alpha\beta}$	${}^{2^{-}}\mathcal{A}^{\parallel}{}_{lphaeta\chi}$
											${}^{2^{+}}_{\bullet}\mathcal{A}^{\parallel}$ † ${}^{lphaeta}$	1 (1 4)	$\frac{i\left(\alpha_{0}-4\beta_{1}\right)k}{2\sqrt{2}}$	0
											$2^+_{\cdot}f^{\parallel} + ^{\alpha\beta}$	$-\frac{i\left(\alpha_{0}-4\beta_{1}\right)k}{2\sqrt{2}}$	$2 \beta_{\stackrel{\cdot}{1}} k^2$	0
											${}^{2^{-}}_{\bullet}\mathcal{A}^{\parallel}$ † ${}^{\alpha\beta\chi}$	0	0	$-\frac{\alpha_{\bullet}}{4} + \beta_{\bullet} + \left(\alpha_{\bullet} + \alpha_{\bullet}\right) k^{2}$

							L	4 1 (	1 2/				
Sat	<u>urated</u> pro	<u>opagator</u>											
	o+ II	o+ II	0° 1 0° 11										
O+ II .	0 <sup>+</sup> σ <sup>  </sup> 4 β.	$ \begin{array}{c} 0^+_{7}\ \\ i\sqrt{2}\left(\alpha_{}+2\beta_{2}\right) \end{array} $	•• τ <sup>⊥</sup> •• σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ										
° <sup>+</sup> σ <sup>  </sup> †			0										
<sup>⊙+</sup> τ <sup>∥</sup> †	$\frac{i \sqrt{2} \left(\alpha_0 + 2\beta_1\right)}{\alpha_1 \left(\alpha_1 + 2\beta_1\right) k - 4\left(\alpha_1 + \alpha_1\right) \beta_1 k^3}$	$\frac{\alpha_0^{\cdot}+2\left(\beta_{\frac{1}{2}}+\left(\alpha_{\frac{1}{4}}+\alpha_{\frac{1}{6}}\right)k^2\right)}{-\alpha_0^{\cdot}\left(\alpha_0^{\cdot}+2\beta_{\frac{1}{2}}\right)k^2+4\left(\alpha_{\frac{1}{4}}+\alpha_{\frac{1}{6}}\right)\beta_{\frac{1}{2}}k^4}$	0 0										
${\stackrel{\scriptscriptstyle{0^+}}{\cdot}} \tau^\perp +$	0	0	0 0										
<sup>⊙-</sup> σ <sup>  </sup> †	Θ	0	$0 \frac{2}{\alpha_{0} + 8 \beta_{3} + 2 \left(\alpha\right)}$	$(2+\alpha_3)k^2$	$\overset{1^{+}}{\boldsymbol{\cdot}}\sigma^{\parallel}{}_{\alpha\beta}$	$\overset{1^{+}}{\cdot}\sigma^{\perp}{}_{\alpha\beta}$	${\stackrel{1^+}{\cdot}}{}^{ au}{}^{lpha}{}_{eta}$	$\overset{1^{-}}{\boldsymbol{\cdot}}\sigma^{\parallel}_{\alpha}$	${}^{1^-}_{\bullet}\sigma^{\!\scriptscriptstyle\perp}{}_{\alpha}$	$1^-\tau^{\parallel}_{\alpha}$ $1^-\tau^{\perp}_{\alpha}$			
			•	$  \cdot   \cdot   + \alpha \beta $	1	$ \frac{2 \sqrt{2} \left(3 \alpha_{0} - 4 \beta_{1} + 16 \beta_{3}\right)}{6} $	$2 i \sqrt{2} \left(3 \alpha_{0} - 4 \beta_{1} + 16 \beta_{3}\right) k$	Θ	Θ	0 0			
					$-\frac{3\left(\alpha_{0}^{-4}\beta_{1}\right)\left(\alpha_{0}+8\beta_{3}\right)}{16\left(\beta_{1}+2\beta_{3}\right)}+\left(\alpha_{2}+\alpha_{5}\right)k^{2}$	$(1+k^2)\left(-3\left(\alpha_0-4\beta_1\right)\left(\alpha_0+8\beta_3\right)+16\left(\alpha_2+\alpha_5\right)\left(\beta_1+2\beta_3\right)k^2\right)$		, and the second	·	v			
			:	$+^{\alpha\beta}$	$-\frac{2\sqrt{2}\left(3\alpha_{0}-4\beta_{1}+16\beta_{3}\right)}{(1+k^{2})\left(-3\left(\alpha_{0}-4\beta_{1}\right)\left(\alpha_{0}+8\beta_{3}\right)+16\left(\alpha_{2}+\alpha_{5}\right)\left(\beta_{1}+2\beta_{3}\right)k^{2}\right)}$	$ \frac{6 \alpha_0 + 8 \left(\beta_1 + 8 \beta_3 + 3 \left(\alpha_2 + \alpha_5\right) k^2\right)}{\left(1 + k^2\right)^2 \left(-3 \left(\alpha_0 - 4 \beta_1\right) \left(\alpha_0 + 8 \beta_3\right) + 16 \left(\alpha_2 + \alpha_5\right) \left(\beta_1 + 2 \beta_3\right) k^2\right)} $	$\frac{6 i \alpha_{0} k+8 i k \left(\beta_{1}+8 \beta_{3}+3 \left(\alpha_{2}+\alpha_{5}\right) k^{2}\right)}{\left(1+k^{2}\right)^{2} \left(-3 \left(\alpha_{0}-4 \beta_{1}\right) \left(\alpha_{0}+8 \beta_{3}\right)+16 \left(\alpha_{2}+\alpha_{5}\right) \left(\beta_{1}+2 \beta_{3}\right) k^{2}\right)}$	0	0	0 0			
				_	$2i\sqrt{2}\left(3\alpha_{0}-4\beta_{1}+16\beta_{3}\right)k$	$-6 i \alpha_{0} k - 8 i k \left(\beta_{1} + 8 \beta_{3} + 3 \left(\alpha_{2} + \alpha_{5}\right) k^{2}\right)$	$2 k^{2} \left(3 \alpha_{0} + 4 \left(\beta_{1} + 8 \beta_{3} + 3 \left(\alpha_{2} + \alpha_{5}\right) k^{2}\right)\right)$		_				
				$\frac{1}{2} \tau^{\parallel} + \frac{\alpha \beta}{2}$	$ \frac{\left(1+k^2\right)\left(-3\left(\alpha_{0}-4\beta_{1}\right)\left(\alpha_{0}+8\beta_{3}\right)+16\left(\alpha_{2}+\alpha_{5}\right)\left(\beta_{1}+2\beta_{3}\right)k^2\right)}{\left(1+k^2\right)\left(-3\left(\alpha_{0}-4\beta_{1}\right)\left(\alpha_{0}+8\beta_{3}\right)+16\left(\alpha_{2}+\alpha_{5}\right)\left(\beta_{1}+2\beta_{3}\right)k^2\right)} $			0	0	0 0			
				$\frac{1}{\cdot}\sigma^{\parallel}$ †	0	0	0	$-\frac{\frac{1}{3(\alpha_{0}-4\beta_{1})(\alpha_{0}+2\beta_{2})}}{8(2\beta_{1}+\beta_{2})}+(\alpha_{4}+\alpha_{5})k^{2}$	$\frac{2\sqrt{2}\left(3\alpha_{0}-4\beta_{1}+4\beta_{2}\right)}{(2\alpha_{0}+2)($	$0 \qquad \frac{4i\left(3\alpha_{1}-4\beta_{1}+4\beta_{2}\right)k}{\left(2\alpha_{1}+2\alpha_{2}\right)\left(2\alpha_{1}-2\alpha_{2}\right)\left(2\alpha_{2}\right)\left(2\alpha_{1}-2\alpha_{2}\right)\left(2\alpha_{1}-2\alpha_{2}\right)\left(2\alpha_{1}-2\alpha_{2}\right)\left(2\alpha_{1}-2$			
								$8\left(2\beta_{1}+\beta_{2}\right) \qquad \left(\frac{\alpha_{4}}{4}-\frac{\alpha_{5}}{5}\right)^{n}$ $2\sqrt{2}\left(3\alpha_{0}-4\beta_{1}+4\beta_{2}\right)$	$ (1+2 k^{2}) \left(-3 \left(\alpha_{0}-4 \beta_{1}\right) \left(\alpha_{0}+2 \beta_{2}\right)+8 \left(\alpha_{4}+\alpha_{5}\right) \left(2 \beta_{1}+\beta_{2}\right) k^{2}\right) $ $ 6 \alpha_{0}+8 \left(\beta_{1}+2 \beta_{2}+3 \left(\alpha_{4}+\alpha_{5}\right) k^{2}\right) $	$(1+2 k^{2}) \left(-3 \left(\alpha_{0} - 4 \beta_{1}\right) \left(\alpha_{0} + 2 \beta_{2}\right) + 8 \left(\alpha_{4} + \alpha_{5}\right) \left(2 \beta_{1} + \beta_{2}\right) k^{2}\right)$ $2 i \sqrt{2} k \left(3 \alpha_{0} + 4 \left(\beta_{1} + 2 \beta_{2} + 3 \left(\alpha_{4} + \alpha_{5}\right) k^{2}\right)\right)$			
				$\frac{1}{2}\sigma^{\perp} + \frac{\alpha}{2}$	0	0	0	$\frac{(1+2 k^2) \left(-3 \left(\alpha_0^{-4} \beta_1\right) \left(\alpha_0^{+2} \beta_2\right) + 8 \left(\alpha_1^{+4} \alpha_5\right) \left(2 \beta_1^{+4} \beta_2\right) k^2\right)}{\left(1+2 k^2\right) \left(-3 \left(\alpha_0^{-4} \beta_1\right) \left(\alpha_0^{+2} \beta_2\right) + 8 \left(\alpha_1^{+4} \alpha_5\right) \left(2 \beta_1^{-4} \beta_2\right) k^2\right)}$		$0 \frac{(1+2 k^2)^2 \left(-3 \left(\alpha_0^{-4} \beta_1\right) \left(\alpha_0^{+2} \beta_2\right) + 8 \left(\alpha_4^{+4} \alpha_5\right) \left(2 \beta_1^{+4} \beta_2\right) k^2\right)}{\left(1+2 k^2\right)^2 \left(-3 \left(\alpha_0^{-4} \beta_1\right) \left(\alpha_0^{+2} \beta_2\right) + 8 \left(\alpha_4^{+4} \alpha_5\right) \left(2 \beta_1^{+4} \beta_2\right) k^2\right)}$			
				1 <sup>-</sup> τ" † <sup>α</sup>	0	0	0	0	0	0 0			
				1-τ <sup>+</sup> † <sup>α</sup>	0	0	0	$-\frac{4i(3\alpha_0-4\beta_1+4\beta_2)k}{(12\alpha_0+2)(2\alpha_0-4\beta_1+4\beta_2)(2\alpha_0-2\beta_1+2\beta_2)k}$	$\frac{2 i \sqrt{2} k \left(3 \alpha_{0} + 4 \left(\beta_{1} + 2 \beta_{2} + 3 \left(\alpha_{4} + \alpha_{5}\right) k^{2}\right)\right)}{\left(1 + 2 k^{2}\right)^{2} \left(2 \alpha_{0} + 4 \alpha_{5}\right) \left(2 \alpha_{0} + 3 \alpha_{5}\right) \left(2 \alpha_{0} $	$0  \frac{4 k^2 \left(3 \alpha_{\bullet} + 4 \left(\beta_{\bullet} + 2 \beta_{\bullet} + 3 \left(\alpha_{\bullet} + \alpha_{\bullet}\right) k^2\right)\right)}{\left(1 + 2 \beta_{\bullet}^{2}\right)^{2} \left(3 \alpha_{\bullet} + 4 \beta_{\bullet}\right) \left(1 + 2 \beta_{\bullet}\right) \left(3 \alpha_{\bullet} + \alpha_{\bullet}\right) \left(3 \alpha_{$	<b>7</b> * II	2+	2-
								$\left[ -\left(1+2k^2\right) \left(-3\left(\alpha_{0}-4\beta_{1}\right) \left(\alpha_{0}+2\beta_{2}\right)+8\left(\alpha_{4}+\alpha_{5}\right) \left(2\beta_{1}+\beta_{2}\right) k^2\right) \right]$	$= \frac{1}{(1+2k^2)^2} \left( -3\left(\alpha_0 - 4\beta_1\right) \left(\alpha_0 + 2\beta_2\right) + 8\left(\alpha_4 + \alpha_5\right) \left(2\beta_1 + \beta_2\right) k^2 \right)$	$ \frac{6}{\left(1+2  k^2\right)^2 \left(-3 \left(\alpha_0^2-4  \beta_1^2\right) \left(\alpha_0^2+2  \beta_2^2\right)+8 \left(\alpha_4^2+\alpha_5^2\right) \left(2  \beta_1^2+\beta_2^2\right) k^2 \right)} $	2 <sup>+</sup> σ   <sub>αβ</sub> 16 β;	$\frac{2^{+} \tau^{\parallel}_{\alpha\beta}}{2 i \sqrt{2} \left(\alpha_{.0}^{-4} \beta_{.1}^{1}\right)}$	2 <sup>-</sup> σ <sup>  </sup> αβχ
										$\overset{2^{+}}{\cdot}\sigma^{\parallel}$ † $^{lphaeta}$	$\frac{1}{-\alpha.^{2}+4\alpha.\beta.+16(\alpha.+\alpha.)\beta.k}$		9
										$\overset{2^+}{\cdot} \tau^{\parallel} + \overset{lpha eta}{\cdot}$	$2 i \sqrt{2} \left(\alpha_{0} - 4 \beta_{1}\right)$	$ 2\left(\alpha_{0}-4\beta_{1}-4\left(\alpha_{1}+\alpha_{4}\right)k^{2}\right) $	- 0
											$-\alpha_{0} \left(\alpha_{0} - 4\beta_{1}\right) k + 16 \left(\alpha_{1} + \alpha_{4}\right) \beta_{1}$	$k^3$ $\alpha_{\theta} \left(\alpha_{\theta} - 4\beta_{1}\right) k^2 - 16 \left(\alpha_{1} + \alpha_{4}\right) \beta_{1} k^4$	1
										$\overset{2^-}{\cdot}\sigma^{\parallel} \uparrow^{\alpha\beta\chi}$	0	0	$\frac{\alpha_{\bullet}}{-\frac{\theta}{4} + \beta_{\bullet} + \left(\alpha_{\bullet} + \alpha_{\bullet}\right) k^{2}}$

### Source constraints

Spin-parity form	Covariant form	Multiplicities
${\stackrel{\Theta^+}{\cdot}} \tau^{\perp} == \Theta$	$\partial_{\beta}\partial_{\alpha} \tau \left(\Delta + \mathcal{K}\right)^{\alpha\beta} = 0$	1
${\stackrel{\Theta^+}{\bullet}} \tau^{\perp} == \Theta$	$\partial_{\beta}\partial_{\alpha}\tau \left(\Delta+\mathcal{K}\right)^{\alpha\beta}=0$	1
$2 i k \frac{1}{\cdot} \sigma^{\perp}^{\alpha} + \frac{1}{\cdot} \tau^{\perp}^{\alpha} = 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}_{\tau} \left(\Delta + \mathcal{K}\right)^{\beta\chi} = \partial_{\chi}\partial^{\chi}\partial_{\beta\tau} \left(\Delta + \mathcal{K}\right)^{\alpha\beta} + 2 \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi}$	3
1- <sub>\tau</sub>   \alpha == \text{\tin}\text{\ti}}\\ \text{\text{\text{\text{\text{\text{\text{\text{\text{\texi{\text{\ti}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tex{\tex	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}_{\tau} \left(\Delta + \mathcal{K}\right)^{\beta\chi} = \partial_{\chi}\partial^{\chi}\partial_{\beta\tau} \left(\Delta + \mathcal{K}\right)^{\beta\alpha}$	3
$\bar{\ell} \ k \ \frac{1}{\bullet} \sigma^{\perp} \alpha^{\beta} + \ \frac{1}{\bullet} \tau^{\parallel} \alpha^{\beta} = 0$	$\partial_{\chi}\partial^{\alpha}\tau\left(\Delta+\mathcal{K}\right)^{\beta\chi} + \partial_{\chi}\partial^{\beta}\tau\left(\Delta+\mathcal{K}\right)^{\chi\alpha} + \partial_{\chi}\partial^{\chi}\tau\left(\Delta+\mathcal{K}\right)^{\alpha\beta} + 2\ \partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta} + 2\ \partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\chi\alpha\beta} = = \partial_{\chi}\partial^{\alpha}\tau\left(\Delta+\mathcal{K}\right)^{\chi\beta} + \partial_{\chi}\partial^{\beta}\tau\left(\Delta+\mathcal{K}\right)^{\alpha\chi} + \partial_{\chi}\partial^{\chi}\tau\left(\Delta+\mathcal{K}\right)^{\beta\alpha} + 2\ \partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta} = - \partial_{\chi}\partial^{\alpha}\tau\left(\Delta+\mathcal{K}\right)^{\chi\beta} + \partial_{\chi}\partial^{\beta}\tau\left(\Delta+\mathcal{K}\right)^{\alpha\chi} + \partial_{\chi}\partial^{\chi}\tau\left(\Delta+\mathcal{K}\right)^{\alpha\chi} + \partial_{\chi}\partial^{\chi}\tau\left($	3
Total expected gau	ge generators:	11

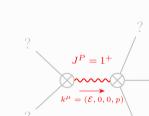
## <u>Massive</u> <u>spectrum</u>



	Massive particle								
	Pole residue:	$\frac{1}{\frac{\alpha}{0}} + \frac{\frac{\alpha. + \alpha. + 2\beta.}{\frac{4}{6} \cdot \frac{6}{2}}}{\frac{2\alpha. \beta. + 2\alpha. \beta.}{\frac{4}{2} \cdot \frac{9}{6} \cdot \frac{9}{2}}} > 0$							
	Square mass:	$\frac{\frac{\alpha.(\alpha.+2\beta.)}{\frac{0}{4}(\alpha.+\alpha.)\beta.}}{\frac{4(\alpha.+\alpha.)\beta.}{6}^{2}} > 0$							
	Spin:	0							

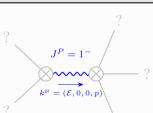
Spin:	0			
Parity:	Even			
$J^{P} = $	? o-/ 			

Massive p	article
Pole residue:	$-\frac{1}{\frac{\alpha_{\cdot}+\alpha_{\cdot}}{2}}>0$
Square mass:	$-\frac{\alpha.+8\beta.}{2(\alpha.+\alpha.)}>$

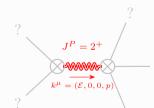


Massive particle

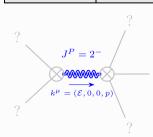
Pole residue:	$ \left(3\left(\alpha_{0}^{2}\left(3\alpha_{0}+3\alpha_{0}+2\beta_{1}+4\beta_{3}\right)-8\alpha_{0}\left(\beta_{1}^{2}+\alpha_{0}\left(\beta_{1}-4\beta_{3}\right)+\alpha_{0}\left(\beta_{1}-4\beta_{3}\right)+\alpha_{0}\left(\beta_{1}-4\beta_{3}\right)-4\beta_{3}^{2}\right)+16\left(-4\beta_{1}\beta_{3}\left(\beta_{1}+2\beta_{3}\right)+\alpha_{0}\left(\beta_{1}^{2}+8\beta_{3}^{2}\right)+\alpha_{0}\left(\beta_{1}^{2}+2\beta_{3}\right)\left(\beta_{1}+2\beta_{3}\right)\left(\beta_{1}+2\beta_{3}\right)+\beta_{1}\beta_{2}^{2}+\beta_{2}\beta_{3}^{2}\right)\right)\right) \right) \right) $
Square mass:	$\frac{\frac{3(\alpha4\beta.)(\alpha.+8\beta.)}{0}}{\frac{16(\alpha.+\alpha.)(\beta.+2\beta.)}{2}(\beta.+2\beta.)} > 0$
Spin:	
Parity:	Even



	Massive particle						
Pole residue:	$-((3(\alpha_{.0}^{2}(3\alpha_{.+}+3\alpha_{.+}+\beta_{.+}+2\beta_{})+4\alpha_{.0}^{2}(-2\alpha_{.}\beta_{}+\beta_{}+\beta_{}+2\beta_{}+\beta_{}+2\beta_{}+\beta$						
Square mass:	$\frac{\frac{3(\alpha.4\beta.)(\alpha.+2\beta.)}{8(\alpha.+\alpha.)(2\beta.+\beta.)}}{\frac{8(\alpha.+\alpha.)(2\beta.+\beta.)}{4}} > 0$						
Spin:							
Parity	Odd						



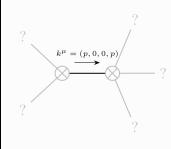
	Massive particle								
	Pole residue:	$-\frac{2}{\alpha_{.}} + \frac{\alpha_{.} + \alpha_{.} + 2\beta_{.}}{2\alpha_{.}\beta_{.} + 2\alpha_{.}\beta_{.}}$							
	Square mass:	$\frac{\frac{\alpha. (\alpha4 \beta.)}{0.000}}{\frac{16 (\alpha. +\alpha.) \beta.}{0.0000}} > 0$							
	Spin:	2							
	Parity:	Even							



Massive	р	article	
Pole residue:		- 1 >	(

Pole residue:	$-\frac{1}{\alpha_1 + \alpha_2} > 0$
Square mass:	$\frac{\frac{\alpha4\beta.}{0}}{\frac{4(\alpha.+\alpha.)}{1}} > 0$
Spin:	2
Parity:	Odd

## <u>Massless</u> <u>spectrum</u>



Massless particle Pole residue: Polarisations: 2

<u>Gauge symmetries</u>

(Not yet implemented in PSALTer)

<u>Unitarity</u> <u>conditions</u>

(Unitarity is demonstrably impossible)

<u>Validity</u> <u>assumptions</u>

(Not yet implemented in PSALTer)