PSALTer results panel $S = \iiint (\frac{1}{4} (2 a_{0} \mathcal{A}_{\alpha}^{\alpha\beta} \mathcal{A}_{\beta\chi}^{\chi} + \mathcal{A}_{\beta\chi}^{\alpha\beta\chi} (-2 a_{0} \mathcal{A}_{\beta\chi\alpha}^{\chi} + 4 \mathcal{W}_{\alpha\beta\chi}) + 4 \mathcal{T}_{\alpha\beta}^{\alpha\beta} h_{\alpha\beta}^{\alpha\beta} - a_{0} h_{\chi}^{\chi} \partial_{\beta} \mathcal{A}_{\alpha}^{\beta} + a_{0} h_{\chi}^{\chi} \partial_{\beta} \mathcal{A}_{\alpha}^{\alpha\beta} - 2 a_{0} h_{\alpha\chi} \partial_{\beta} \mathcal{A}_{\alpha}^{\beta\beta} + 4 c_{0} \partial_{\gamma} \mathcal{A}_{\alpha}^{\beta\beta} - 4 c_{0} \partial_{\gamma} \mathcal{A}_{\alpha\beta}^{\beta\beta} - 4 c_{0} \partial_{\gamma} \mathcal{A}_{\alpha\beta}^{\beta\beta}))[t, x, y, z] dz dy dx dt$ **Wave operator** $\overset{0^+}{\cdot} h^{\perp} \qquad \overset{0^+}{\cdot} h^{\parallel} \quad \overset{0^+}{\cdot} \mathcal{A}_a^{\parallel} \quad \overset{0^+}{\cdot} \mathcal{A}_s^{\perp t} \quad \overset{0^+}{\cdot} \mathcal{A}_s^{\parallel} \quad \overset{0^+}{\cdot} \mathcal{A}_s^{\perp h}$ $0^{+}h^{\perp} + 0 \qquad 0 \qquad 0 \qquad \frac{ia.k}{4} - \frac{ia.k}{4\sqrt{2}}$ $0.^{+}h^{\parallel}+$ 0 0 $\frac{i a.k}{2\sqrt{2}}$ 0 $-\frac{i a.k}{4\sqrt{3}}$ $\frac{i a.k}{4\sqrt{6}}$ $0^{+}\mathcal{A}_{a}^{\parallel} + 0 - \frac{i a \cdot k}{2 \sqrt{2}} - \frac{a \cdot 0}{2} = 0 = 0$ $0^{+}_{\cdot}\mathcal{A}_{s}\| + \frac{1}{4} \bar{a}_{0} k \frac{a_{0} k}{4\sqrt{3}} 0 \frac{a_{0}}{\sqrt{2}} 0 - \frac{a_{0}}{2\sqrt{2}}$ $0^{+} \mathcal{A}_{S}^{\perp h} + \begin{vmatrix} ia.k \\ \frac{0}{4\sqrt{2}} & -\frac{ia.k}{4\sqrt{6}} \\ 0 & -\frac{a}{2\sqrt{2}} & -\frac{a}{2\sqrt{2}} \end{vmatrix} = \frac{a}{2}$ ${}^{0}\mathcal{H}_{a}^{\parallel} \dagger 0 0 0 0 0 0$ $1^+\mathcal{R}_{\mathsf{a}}^{\parallel}{}_{\alpha\beta}^{} 1^+\mathcal{R}_{\mathsf{a}}^{}{}_{\alpha\beta}^{} 1^+\mathcal{R}_{\mathsf{s}}^{}{}_{\alpha\beta}^{}$ $^{1}\mathit{h}^{\scriptscriptstyle{\perp}}_{\alpha}$ $^{1}\mathcal{A}_{\mathsf{a}}^{\parallel}_{\alpha}$ $^{1}\mathcal{A}_{\mathsf{a}}^{\perp}_{\alpha}$ $^{1.}\mathcal{A}_{\mathsf{a}}{}^{\scriptscriptstyle \perp}\,\dagger^{^{lphaeta}}$ $^{1}\cdot \mathcal{A}_{\mathsf{S}}^{\perp} \dagger^{\alpha}$ $-\frac{i a \cdot k}{4 \sqrt{6}}$ $-\frac{i a. k}{0}$ ${}^{1}\mathcal{A}_{\mathsf{a}}{}^{\parallel}\,\dagger^{\alpha}$ ${}^{1}\mathcal{A}_{\mathsf{a}^{\perp}}\mathsf{\dagger}^{\alpha}$ 0 0 $\frac{1}{3} \left(-a_{.0} - c_{.5} k^2 \right)$ $\frac{1}{6} \sqrt{5} \left(a_{.0} - 2 c_{.5} k^2 \right)$ $-\frac{a_{.}+4c_{.}k^{2}}{6\sqrt{2}}$ $\frac{1}{6} \left(-a \cdot -4c \cdot k^2 \right)$ $\mathcal{A}_{\mathsf{S}}^{\mathsf{T}}$ † $-\frac{1}{4}i\sqrt{\frac{5}{6}}a_{0}k \qquad 0 \qquad 0 \qquad \frac{1}{6}\sqrt{5}(a_{0}-2c_{5}k^{2}) \qquad \frac{1}{3}(a_{0}-5c_{5}k^{2}) \qquad -\frac{1}{6}\sqrt{\frac{5}{2}}(a_{0}+4c_{5}k^{2}) - \frac{1}{6}\sqrt{5}(a_{0}+4c_{5}k^{2})$ $^{1}\mathcal{A}_{\mathsf{S}}^{\,\parallel\mathsf{t}}\,\dagger^{lpha}$ 0 0 $-\frac{a_{.}+4c_{5}k^{2}}{6\sqrt{2}}$ $-\frac{1}{6}\sqrt{\frac{5}{2}}(a_{.}+4c_{.}k^{2})$ $\frac{1}{3}(a_{.}-2c_{.}k^{2})$ ${}^{1}\mathcal{A}_{s}^{\perp h} \dagger^{\alpha}$ $0 \qquad 0 \qquad \frac{1}{6} \left(-a \cdot -4c \cdot k^2 \right) \qquad -\frac{1}{6} \sqrt{5} \left(a \cdot +4c \cdot k^2 \right) \qquad \qquad \frac{a \cdot -8c \cdot k^2}{6\sqrt{2}} \qquad \qquad \frac{5a}{12} - \frac{4c \cdot k^2}{3} \qquad \qquad \\ 2^{+}h \|_{\alpha\beta} \ 2^{+}\mathcal{A}_{a}\|_{\alpha\beta} \ 2^{+}\mathcal{A}_{s}\|_{\alpha\beta} \ 2^{+}\mathcal{A}_{s}\|_{\alpha\beta}$ $^{3}\mathcal{A}_{s}^{\parallel}_{\alpha\beta\chi}$ $^{3}\mathcal{A}_{s}^{\parallel}\dagger^{\alpha\beta\chi}$ **Saturated propagator** ${}^{0^{+}}W_{a}{}^{\parallel}$ $0.^{+}W_{s}^{\perp t}$ ${}^{0,+}W_{s}^{\parallel}$ $0.^{+}W_{s}^{\perp h}$ ${}^{0}W_{a}^{\parallel}$ $8ik(19+3k^2)$ $\frac{4i \sqrt{2} k (10+3)k^2}{}$ $a_{0}(16+3k^{2})^{2}$ $\frac{a}{a(16+3k^2)^2}$ $\frac{16a.+3a.k^2}{1}$ $16a.+3a.k^{2}$ $a_{0}(16+3k^{2})^{2}$ $a.(16+3k^2)^2$ $8i\sqrt{\frac{2}{3}}$ $\frac{4\sqrt{3}}{16a_0+3a_0k^2}$ <u>2i√2</u> $\frac{8 i \sqrt{3}}{16 a. k+3 a. k^3}$ ^{0,+} 𝒯 + $-\frac{4\sqrt{\frac{2}{3}}}{16a.+3a.k^2}$ $\frac{4\sqrt{6}}{16a.+3a.k^2}$ ${}^{0^{+}}W_{a}{}^{\parallel}$ † $-\frac{1}{\sqrt{3}} (16 a_0 + 3 a_0 k^2)$ $-\frac{8\sqrt{2}(10+3k^2)}{a\cdot(16+3k^2)^2}$ 8 i √3 $16(19+3k^2)$ ${}^{0,^{+}}\mathcal{W}_{\mathsf{S}}{}^{\perp\mathsf{t}}\,\dagger$ $\frac{1}{a.(16+3k^2)^2}$ $-\frac{144}{a.(16+3k^2)^2}$ $a_{0}(16+3k^{2})^{2}$ $-\frac{8\sqrt{2}(22+3k^2)}{3a.(16+3k^2)^2}$ $-\frac{8ik(19+3k^2)}{a_0(16+3k^2)^2}$ $-\frac{16(35+6k^2)}{3a.(16+3k^2)^2}$ $\frac{\sqrt{3} (16 a. k+3 a. k^3)}{\sqrt{3} (16 a. k+3 a. k^3)}$ $\frac{1}{a \cdot (16+3 k^2)^2}$ $-\frac{8}{\sqrt{3} (16 a_{.} + 3 a_{.} k^{2})} - \frac{8 \sqrt{2} (10 + 3 k^{2})}{a_{.} (16 + 3 k^{2})^{2}}$ $\frac{4i\sqrt{2}k(10+3k^2)}{a.(16+3k^2)^2}$ $-\frac{8\sqrt{2}(22+3k^2)}{3a.(16+3k^2)^2}$ $\frac{32 (13+3 k^2)}{3 a \cdot (16+3 k^2)^2}$ ${}^{0^{+}}W_{s}^{\perp h}$ † $\frac{\sqrt{3}}{16 a. k + 3 a. k^3}$ $-\frac{2}{a}$ ${}^{0}W_{a}$ † ${}^{1}\mathcal{W}_{\mathsf{S}}{}^{\parallel\mathsf{h}}{}_{\alpha}$ $\overset{1}{\cdot}W_{\mathsf{a}}^{\parallel}{}_{\alpha\beta}\overset{1}{\cdot}W_{\mathsf{a}}^{\perp}{}_{\alpha\beta}\overset{1}{\cdot}W_{\mathsf{s}}^{\perp}{}_{\alpha\beta}$ ${}^{1}\mathcal{W}_{\mathsf{a}}{}^{\parallel}{}_{\alpha}$ ${}^1\mathcal{W}_{\mathsf{a}}{}^{\scriptscriptstyle\perp}{}_{\alpha}$ ${}^{1}\mathcal{W}_{\mathsf{S}}{}^{\mathtt{Lt}}{}_{\alpha}$ ${}^{1}\mathcal{W}_{\mathsf{S}}{}^{\parallel\mathsf{t}}{}_{\alpha}$ ${}^{1}\mathcal{W}_{\mathsf{S}}^{\mathsf{\perp}\mathsf{h}}{}_{\alpha}$ ${}^1{\mathcal T}^{\scriptscriptstyle \perp}{}_{\alpha}$ $^{1^{+}}W_{a}^{\parallel}+^{\alpha \beta}$ 0

 $^{1^+}\mathcal{W}_{\mathsf{a}}{}^{\scriptscriptstyle \perp}\,\dagger^{\alpha\beta}$

 $^{1.}W_{s}^{\perp} + ^{\alpha \mu}$

 $^{1}\mathcal{T}^{\scriptscriptstyle \perp}$ † $^{^{a}}$

 ${}^{1}\mathcal{W}_{\mathsf{a}}{}^{\parallel}\,\dagger^{\alpha}$

 ${}^{1}\mathcal{W}_{\mathsf{a}}{}^{\scriptscriptstyle \perp}\,\mathsf{\dagger}^{\scriptscriptstyle lpha}$

 $\frac{1}{2}W_{s}^{\perp t} \dagger^{\alpha}$

 ${}^{1}\mathcal{W}_{\mathsf{s}}{}^{\parallel\mathsf{t}}\,\mathsf{t}^{\alpha}$

 $\frac{1}{2}W_{s}^{\perp h} + \alpha$

 ${}^{1}\mathcal{W}_{\mathsf{S}}{}^{\parallel \mathsf{h}}\,\mathsf{t}^{\alpha}$

0

0

0

0

 $\frac{2 k^2}{a_{\cdot \cdot} (2+k^2)^2}$

 $-\frac{2 i \sqrt{2} k}{2 a. + a. k^2}$

 $-\frac{i k (4+k^2)}{a \cdot (2+k^2)^2}$

 $-\frac{i \sqrt{\frac{5}{6}} k}{2 a + a k^2}$

 $\frac{2 i k (3+k^2)}{\sqrt{3} a (2+k^2)^2}$

 $\frac{2i\sqrt{2}k}{a\cdot(2+k^2)}$

0

 $\frac{\sqrt{2} (4+k^2)}{a_{\cdot \cdot} (2+k^2)}$

 $\frac{\sqrt{\frac{2}{3}} k^2}{2 a. + a. k^2}$

0

0

 $\frac{i k (4+k^2)}{a \cdot (2+k^2)^2}$

 $\frac{\sqrt{2} (4+k^2)}{a \cdot (2+k^2)}$

 $\frac{(4+k^2)^2}{2a.(2+k^2)^2}$

 $-\frac{k^2}{\sqrt{6} \ a_{.0}(2+k^2)}$

 $-\frac{\sqrt{6} a_{.0} (2+k^2)^2}{\sqrt{6} a_{.0} (2+k^2)^2}$

 $-\frac{2 k^2}{\sqrt{3} (2 a. + a. k^2)}$

 $\frac{k^2 \left(-2+k^2\right)}{2 \sqrt{6} a_{.0} (2+k^2)^2}$

 $\frac{-\frac{1}{c_{5}k^{2}} + \frac{8(-2+k^{2})}{a_{0}(2+k^{2})^{2}}}{24\sqrt{2}}$

 $-\frac{1}{24c_{.}k^{2}}+\frac{1}{-2a_{.0}^{-\frac{8a_{.0}}{2+3k^{2}}}}$

 $\frac{i\,k\,(6+5\,k^2)}{\sqrt{6}\,a_{\stackrel{.}{0}}(2+k^2)^2}\,\,-\frac{2\,k^2}{\sqrt{3}\,\left(2\,a_{\stackrel{.}{0}}+a_{\stackrel{.}{0}}\,k^2\right)}\,\,\frac{k^2\,(-2+k^2)}{2\,\sqrt{6}\,a_{\stackrel{.}{0}}(2+k^2)^2}\,\,\frac{1}{48}\,\left(-\frac{1}{c_{\stackrel{.}{5}}\,k^2}\,-\,\frac{4\,(76+52\,k^2+3\,k^4)}{a_{\stackrel{.}{0}}(2+k^2)^2}\right)\,\,\frac{1}{48}\,\,\sqrt{5}\,\left(-\frac{1}{c_{\stackrel{.}{5}}\,k^2}\,+\,\frac{40+12\,k^2}{2\,a_{\stackrel{.}{0}}+a_{\stackrel{.}{0}}\,k^2}\right)$

0

0

 $i\sqrt{\frac{5}{6}}k$

 $-\frac{\sqrt{\frac{5}{6}} k^2}{4 a. + 2 a. k^2}$

 $\frac{1}{24} \sqrt{\frac{5}{2}} \left(-\frac{1}{c_5 k^2} - \frac{8}{a_0 (2+k^2)} \right) - \frac{1}{24 c_5 k^2} + \frac{2 (17+14 k^2+3 k^4)}{3 a_0 (2+k^2)^2}$

0

0

 $i\sqrt{\frac{2}{3}}k$

 $\frac{1}{a.(2+k^2)}$

0

 $-\frac{\sqrt{5} (a.+4c.k^2)}{24a.c.k^2}$

 $\frac{-\frac{1}{c_5 k^2} - \frac{8 (7 + 3 k^2)}{a_0 (2 + k^2)}}{12 \sqrt{2}}$

 $\frac{5}{3a.} - \frac{1}{12c.k^2}$

 $^{2}W_{a}^{\parallel} + ^{\alpha\beta\chi}$

0

0

 $2^{+}\mathcal{T}\|_{\alpha\beta} 2^{+}\mathcal{W}_{\mathsf{a}}\|_{\alpha\beta} 2^{+}\mathcal{W}_{\mathsf{s}}\|_{\alpha\beta} 2^{+}\mathcal{W}_{\mathsf{s}}\|_{\alpha\beta} 2^{+}\mathcal{W}_{\mathsf{a}}\|_{\alpha\beta\chi} 2^{+}\mathcal{W}_{\mathsf{s}}\|_{\alpha\beta\chi} 2^{+}\mathcal{W}_{\mathsf{s}}\|_{\alpha\beta\chi}$

0

0

 ${}^{3}W_{s}^{\parallel} + {}^{\alpha\beta\chi}$

 $3^{-}W_{s}^{\parallel}_{\alpha\beta\chi}$

0

0

 $-\frac{2 i k (3+k^2)}{\sqrt{3} a_0 (2+k^2)^2}$

 $\frac{\sqrt{\frac{2}{3}} k^2}{2 a_0 + a_0 k^2}$

 $\frac{k^2 (5+2 k^2)}{\sqrt{3} a_{.0} (2+k^2)^2}$

 $\frac{-\frac{1}{c_{5}k^{2}} + \frac{8(-2+k^{2})}{a_{0}(2+k^{2})^{2}}}{24\sqrt{2}}$

 $\frac{-\frac{1}{c_{.k}k^2} - \frac{8(7+3k^2)}{a_{.0}(2+k^2)}}{12\sqrt{2}}$

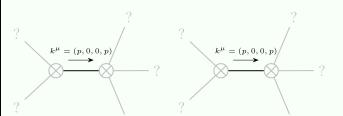
Source constraints

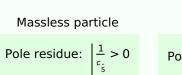
Spir	n-parity form	Covariant form	Multiplicities
k 0.+	$W_{s}^{\parallel} + 2 k^{0+} W_{s}^{\perp h} - 6 i^{0+} \mathcal{T}^{\perp} == 0$	$2 \partial_{\beta} \partial_{\alpha} \mathcal{T}^{\alpha\beta} + \partial_{\chi} \partial^{\chi} \partial_{\alpha} \mathcal{W}^{\alpha\beta}_{\beta} = \partial_{\chi} \partial_{\beta} \partial_{\alpha} \mathcal{W}^{\alpha\beta\chi}$	1
k 0.+	$W_{S}^{\perp t} + 2 i^{0^{+}} \mathcal{T}^{\perp} = 0$	$2\partial_{\beta}\partial_{\alpha}\mathcal{T}^{\alpha\beta} == \partial_{\chi}\partial_{\beta}\partial_{\alpha}\mathcal{W}^{\alpha\beta\chi}$	1
k 1	$W_{s}^{\perp h^{\alpha}} - 6i {}^{1}\mathcal{T}^{\perp \alpha} = k (3 {}^{1}W_{a}^{\perp \alpha} + {}^{1}W_{s}^{\perp t^{\alpha}})$	$2 \partial_{\chi} \partial_{\beta} \partial^{\alpha} \mathcal{T}^{\beta \chi} + \partial_{\delta} \partial^{\delta} \partial_{\chi} \partial_{\beta} \mathcal{W}^{\beta \alpha \chi} = 2 \partial_{\chi} \partial^{\chi} \partial_{\beta} \mathcal{T}^{\alpha \beta} + \partial_{\delta} \partial_{\chi} \partial_{\beta} \partial^{\alpha} \mathcal{W}^{\beta \chi \delta}$	3
Tota	al expected gauge generators:		5

Massive spectrum

(No particles)

Massless spectrum





Massiess particle		
Pole residue:	$-\frac{p^2}{a_0^2} > 0$	
Polarisations:	2	

Unitarity conditions

Polarisations: 2

 $a_{.} < 0 \&\&c_{.} > 0$