PSALTer results panel

$$S == \int\int\int\int \left(\frac{1}{6}\left(2\,t_{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_{1}\,\mathcal{A}_{\alpha}{}^{\theta}{}_{\theta}\,\partial_{\prime}f^{\alpha\,\prime} + 4\,t_{1}\,\mathcal{A}_{\prime}{}^{\theta}{}_{\theta}\,\partial^{\prime}f^{\alpha}{}_{\alpha} - 2\,t_{1}\,\partial_{\prime}f^{\theta}{}_{\theta}\,\partial^{\prime}f^{\alpha}{}_{\alpha} - 2\,t_{1}\,\partial_{\prime}f^{\alpha\,\prime}\,\partial_{\theta}f_{\alpha}{}^{\theta} + 4\,t_{1}\,\partial^{\prime}f^{\alpha}{}_{\alpha}\,\partial_{\theta}f_{\prime}{}^{\theta} + 8\,r_{2}\,\partial_{\beta}\mathcal{A}_{\alpha\,\prime\,\theta}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\,\prime} - 4\,r_{2}\,\partial_{\beta}\mathcal{A}_{\alpha\theta\,\prime}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\,\prime} + 4\,r_{2}\,\partial_{\beta}\mathcal{A}_{\prime\,\theta\alpha}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\,\prime} - 2\,r_{2}\,\partial_{\prime}\mathcal{A}_{\alpha\beta\theta}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\,\prime} + 2\,r_{2}\,\partial_{\theta}\mathcal{A}_{\alpha\beta\,\prime}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\,\prime} - 4\,r_{2}\,\partial_{\theta}\mathcal{A}_{\alpha\,\prime\,\beta}\,\partial^{\theta}\mathcal{A}^{\alpha\beta\,\prime} + 6\,r_{5}\,\partial_{\prime}\mathcal{A}_{\theta}{}^{\kappa}{}_{\kappa}\,\partial^{\theta}\mathcal{A}^{\alpha\,\prime}{}_{\alpha} - 6\,r_{5}\,\partial_{\theta}\mathcal{A}_{\prime}{}^{\kappa}{}_{\kappa}\,\partial^{\theta}\mathcal{A}^{\alpha\,\prime}{}_{\alpha} - 6\,t_{1}\,\partial_{\alpha}f_{\prime\,\theta}\,\partial^{\theta}f^{\alpha\,\prime} - 3\,t_{1}\,\partial_{\alpha}f_{\theta\,\prime}\,\partial^{\theta}f^{\alpha\,\prime} + 3\,t_{1}\,\partial_{\prime}f_{\alpha\theta}\,\partial^{\theta}f^{\alpha\,\prime} + 3\,t_{1}\,\partial_{\theta}f_{\alpha\,\prime}\,\partial^{\theta}f^{\alpha\,\prime} + 3\,t_{1}\,\partial_{\theta}f_{\prime\,\alpha}\,\partial^{\theta}f^{\alpha\,\prime} + 6\,t_{1}\,\mathcal{A}_{\alpha\theta\,\prime}\left(\mathcal{A}^{\alpha\,\prime\,\theta} + 2\,\partial^{\theta}f^{\alpha\,\prime}\right) - 6\,r_{5}\,\partial_{\alpha}\mathcal{A}^{\alpha\,\prime\,\theta}\,\partial_{\kappa}\mathcal{A}_{\prime}{}^{\kappa}{}_{\theta} + 12\,r_{5}\,\partial^{\theta}\mathcal{A}^{\alpha\,\prime}{}_{\alpha}\,\partial_{\kappa}\mathcal{A}_{\prime}{}^{\kappa}{}_{\theta} + 6\,r_{5}\,\partial_{\alpha}\mathcal{A}^{\alpha\,\prime\,\theta}\,\partial_{\kappa}\mathcal{A}_{\theta}{}^{\kappa}{}_{\prime} - 12\,r_{5}\,\partial^{\theta}\mathcal{A}^{\alpha\,\prime}{}_{\alpha}\,\partial_{\kappa}\mathcal{A}_{\theta}{}^{\kappa}{}_{\prime}\right)\right)[t, x, y, z]\,dl\,z\,dl\,y\,dl\,x\,dl\,t$$

Wave operator

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

	$\overset{1^+}{\cdot}\mathcal{A}^{\parallel}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\mathcal{A}^{\perp}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}f^{\parallel}{}_{\alpha\beta}$	$\overset{1^-}{\cdot}\mathcal{A}^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}\mathcal{A}^{\perp}{}_{\alpha}$	$\overset{1^-}{\cdot}f^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}f^{\perp}{}_{\alpha}$
$\overset{1^+}{\cdot}\mathcal{A}^{\parallel}\,\dagger^{\alpha\beta}$	$k^2\,r_{\cdot}{}_{5} - \frac{t_{\cdot}{}_{1}}{2}$	$-\frac{t_{\cdot}{}_{1}}{\sqrt{2}}$	$-\frac{i\,k\,t_{\cdot}{}_{1}}{\sqrt{2}}$	0	0	0	0
$\overset{1^+}{\cdot}\mathcal{A}^{\perp}\,\dagger^{\alpha\beta}$	$-\frac{t_{\cdot}{}_{1}}{\sqrt{2}}$	0	0	0	0	0	0
$\overset{1^+}{\cdot}f^{\parallel}\,\dagger^{\alpha\beta}$	$\frac{i\,k\,t_{\cdot}{}_{1}}{\sqrt{2}}$	0	0	0	0	0	0
$\overset{1^-}{\cdot}\mathcal{A}^{\parallel}\,\dagger^{\alpha}$	0	0	0	$k^2\,r_{\cdot}{}_{5} + \frac{t_{\cdot}{}_{1}}{6}$	$\frac{t_{\cdot}{}_{1}}{3\,\sqrt{2}}$	0	$\frac{i\,k\,t_{\cdot}{}_{1}}{3}$
$\overset{1^-}{\cdot}\mathcal{A}^{\perp}\,\dagger^{\alpha}$	0	0	0	$\frac{t_{\cdot}{}_{1}}{3\,\sqrt{2}}$	$\frac{t_{\cdot}{}_{1}}{3}$	0	$\frac{1}{3}\,i\,\sqrt{2}\,k\,t_{\cdot}{}_{1}$
$\overset{1^-}{\cdot}f^{\parallel}\,\dagger^{\alpha}$	0	0	0	0	0	0	0
$\overset{1^-}{\cdot}f^{\perp}\,\dagger^{\alpha}$	0	0	0	$-\frac{1}{3}\,i\,k\,t_{\cdot}{}_{1}$	$-\frac{1}{3}\,i\,\sqrt{2}\,k\,t_{\cdot}{}_{1}$	0	$\frac{2\,k^2\,t_{\cdot}{}_{1}}{3}$

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

Saturated propagator

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

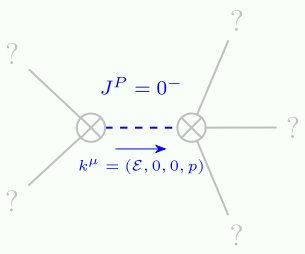
	$\overset{1^+}{\cdot}\sigma^{\parallel}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\sigma^{\perp}{}_{\alpha\beta}$	$\overset{1^+}{\cdot}\tau^{\parallel}{}_{\alpha\beta}$	$\overset{1^-}{\cdot}\sigma^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}\sigma^{\perp}{}_{\alpha}$	$\overset{1^-}{\cdot}\tau^{\parallel}{}_{\alpha}$	$\overset{1^-}{\cdot}\tau^{\perp}{}_{\alpha}$
$\overset{1^+}{\cdot}\sigma^{\parallel}\,\dagger^{\alpha\beta}$	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
$\overset{1^+}{\cdot}\sigma^{\perp}\,\dagger^{\alpha\beta}$	$-\frac{\sqrt{2}}{t_{\cdot}{}_{1} + k^2\,t_{\cdot}{}_{1}}$	$\frac{-2\,k^2\,r_{\cdot}{}_{5} + t_{\cdot}{}_{1}}{(1+k^2)^2\,t_{\cdot}{}_{1}^{\,2}}$	$-\frac{i\left(2\,k^3\,r_{\cdot}{}_{5} - k\,t_{\cdot}{}_{1}\right)}{(1+k^2)^2\,t_{\cdot}{}_{1}^{\,2}}$	0	0	0	0
$\overset{1^+}{\cdot}\tau^{\parallel}\,\dagger^{\alpha\beta}$	$\frac{i\,\sqrt{2}\,k}{t_{\cdot}{}_{1} + k^2\,t_{\cdot}{}_{1}}$	$\frac{i\left(2\,k^3\,r_{\cdot}{}_{5} - k\,t_{\cdot}{}_{1}\right)}{(1+k^2)^2\,t_{\cdot}{}_{1}^{\,2}}$	$\frac{-2\,k^4\,r_{\cdot}{}_{5} + k^2\,t_{\cdot}{}_{1}}{(1+k^2)^2\,t_{\cdot}{}_{1}^{\,2}}$	0	0	0	0
$\overset{1^-}{\cdot}\sigma^{\parallel}\,\dagger^{\alpha}$	0	0	0	$\frac{1}{k^2\,r_{\cdot}{}_{5}}$	$-\frac{1}{\sqrt{2}\left(k^2\,r_{\cdot}{}_{5} + 2\,k^4\,r_{\cdot}{}_{5}\right)}$	0	$-\frac{i}{k\,r_{\cdot}{}_{5} + 2\,k^3\,r_{\cdot}{}_{5}}$
$\overset{1^-}{\cdot}\sigma^{\perp}\,\dagger^{\alpha}$	0	0	0	$-\frac{1}{\sqrt{2}\left(k^2\,r_{\cdot}{}_{5} + 2\,k^4\,r_{\cdot}{}_{5}\right)}$	$\frac{6\,k^2\,r_{\cdot}{}_{5} + t_{\cdot}{}_{1}}{2\left(k + 2\,k^3\right)^2\,r_{\cdot}{}_{5}\,t_{\cdot}{}_{1}}$	0	$\frac{i\left(6\,k^2\,r_{\cdot}{}_{5} + t_{\cdot}{}_{1}\right)}{\sqrt{2}\;k\left(1 + 2\,k^2\right)^2\,r_{\cdot}{}_{5}\,t_{\cdot}{}_{1}}$
$\overset{1^-}{\cdot}\tau^{\parallel}\,\dagger^{\alpha}$	0	0	0	0	0	0	0
$\overset{1^-}{\cdot}\tau^{\perp}\,\dagger^{\alpha}$	0	0	0	$\frac{i}{k\,r_{\cdot}{}_{5} + 2\,k^3\,r_{\cdot}{}_{5}}$	$-\frac{i\left(6\,k^2\,r_{\cdot}{}_{5} + t_{\cdot}{}_{1}\right)}{\sqrt{2}\;k\left(1 + 2\,k^2\right)^2\,r_{\cdot}{}_{5}\,t_{\cdot}{}_{1}}$	0	$\frac{6\,k^2\,r_{\cdot}{}_{5} + t_{\cdot}{}_{1}}{\left(1 + 2\,k^2\right)^2\,r_{\cdot}{}_{5}\,t_{\cdot}{}_{1}}$

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

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
$\overset{0^+}{\cdot}\tau^{\parallel} == 0$	$\partial_{\beta}\partial_{\alpha}\tau\,(\Delta+\mathcal{K})^{\alpha\beta} == \partial_{\beta}\partial^{\beta}\tau\,(\Delta+\mathcal{K})^{\alpha}{}_{\alpha}$	1
$\overset{0^+}{\cdot}\sigma^{\parallel} == 0$	$\partial_{\beta}\sigma^{\alpha}{}_{\alpha}{}^{\beta} == 0$	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:		17

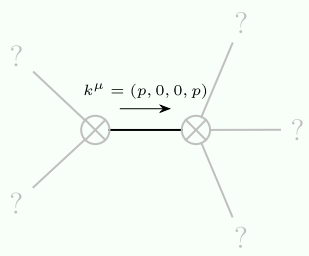
Massive spectrum



Massive particle

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

Massless spectrum



Massless particle

Pole residue:	$-\frac{7}{r_{\cdot}{}_{5}} - \frac{2\,p^2}{t_{\cdot}{}_{1}} - \frac{4\,r_{\cdot}{}_{5}\,p^4}{t_{\cdot}{}_{1}^{\,2}} > 0$
Polarisations:	2

Unitarity conditions

$r_{\cdot}{}_{2} < 0\;\&\&\;t_{\cdot}{}_{1} < 0\;\&\&\;r_{\cdot}{}_{5} < 0$