

PSALTer results panel

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$$\iiint\left(\frac{1}{6}\left(2t_{\cdot 1}\mathcal{A}^{\alpha\prime}{}_{\alpha}\mathcal{A}_{,\theta}{}^{\theta}+6\mathcal{A}^{\alpha\beta\chi}{}_{\sigma_{\alpha\beta\chi}}f^{\alpha\beta}{}_{\tau}(\Delta+\mathcal{K})_{\alpha\beta}-4t_{\cdot 1}\mathcal{A}_{\alpha}{}^{\theta}{}_{\theta}\partial_{\prime}f^{\alpha\prime}{}_{\alpha}-24r_{\cdot 3}\partial_{\beta}\mathcal{A}_{,\theta}{}^{\theta}\partial_{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha}+4t_{\cdot 1}\mathcal{A}_{,\theta}{}^{\theta}\partial_{\prime}f^{\alpha}{}_{\alpha}-2t_{\cdot 1}\partial_{\prime}f^{\theta}{}_{\theta}\partial_{\prime}f^{\alpha}{}_{\alpha}-24r_{\cdot 3}\partial_{\alpha}\mathcal{A}^{\alpha\beta\prime}{}_{\beta}\partial_{\theta}\mathcal{A}_{,\theta}{}^{\theta}+48r_{\cdot 3}\partial_{\prime}\mathcal{A}^{\alpha\beta}{}_{\alpha}\partial_{\theta}\mathcal{A}_{,\theta}{}^{\theta}-2t_{\cdot 1}\partial_{\prime}f^{\alpha\prime}{}_{\alpha}\partial_{\theta}f^{\theta}{}_{\alpha}+4t_{\cdot 1}\partial_{\prime}f^{\alpha}{}_{\alpha}\partial_{\theta}f_{,\theta}{}^{\theta}+8r_{\cdot 2}\partial_{\beta}\mathcal{A}_{\alpha\prime\theta}\partial^{\theta}\mathcal{A}^{\alpha\beta\prime}{}_{\beta}-4r_{\cdot 2}\partial_{\beta}\mathcal{A}_{\alpha\theta\prime}\partial^{\theta}\mathcal{A}^{\alpha\beta\prime}{}_{\beta}+4r_{\cdot 2}\partial_{\beta}\mathcal{A}_{,\theta\alpha}\partial^{\theta}\mathcal{A}^{\alpha\beta\prime}{}_{\beta}-24r_{\cdot 3}\partial_{\beta}\mathcal{A}_{,\theta\alpha}\partial^{\theta}\mathcal{A}^{\alpha\beta\prime}{}_{\beta}-2r_{\cdot 2}\partial_{\prime}\mathcal{A}_{\alpha\beta\theta}\partial^{\theta}\mathcal{A}^{\alpha\beta\prime}{}_{\beta}+2r_{\cdot 2}\partial_{\theta}\mathcal{A}_{\alpha\beta\prime}\partial^{\theta}\mathcal{A}^{\alpha\beta\prime}{}_{\beta}-4r_{\cdot 2}\partial_{\theta}\mathcal{A}_{\alpha\prime\beta}\partial^{\theta}\mathcal{A}^{\alpha\beta\prime}{}_{\beta}-6t_{\cdot 1}\partial_{\alpha}f_{,\theta}\partial^{\theta}f^{\alpha\prime}{}_{\alpha}-3t_{\cdot 1}\partial_{\alpha}f_{\theta\prime}\partial^{\theta}f^{\alpha\prime}{}_{\alpha}+3t_{\cdot 1}\partial_{\prime}f_{\alpha\theta}\partial^{\theta}f^{\alpha\prime}{}_{\alpha}+3t_{\cdot 1}\partial_{\theta}f_{\alpha\prime}\partial^{\theta}f^{\alpha\prime}{}_{\alpha}+3t_{\cdot 1}\partial_{\theta}f_{,\alpha}\partial^{\theta}f^{\alpha\prime}{}_{\alpha}+6t_{\cdot 1}\mathcal{A}_{\alpha\theta\prime}\left(\mathcal{A}^{\alpha\prime\theta}{}_{\alpha}+2\partial^{\theta}f^{\alpha\prime}{}_{\alpha}\right)\right)\Big)[t,\,x,\,y,\,z]dzdydxdt$$

Wave operator

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

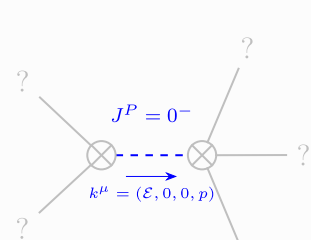
Saturated propagator

$\overset{0}{\cdot}\sigma^{\parallel}$	$\overset{0}{\cdot}\tau^{\parallel}$	$\overset{0}{\cdot}\tau^{\perp}$	$\overset{0}{\cdot}\sigma^{\perp}$									
$\overset{0}{\cdot}\sigma^{\parallel}\dagger$	$\frac{1}{6\,k^2\,r_{\cdot 3}}$	0	0	0	$\overset{1}{\cdot}\sigma^{\parallel}_{\alpha\beta}$	$\overset{1}{\cdot}\sigma^{\perp}_{\alpha\beta}$	$\overset{1}{\cdot}\tau^{\parallel}_{\alpha\beta}$	$\overset{1}{\cdot}\sigma^{\parallel}_{\alpha}$	$\overset{1}{\cdot}\sigma^{\perp}_{\alpha}$	$\overset{1}{\cdot}\tau^{\parallel}_{\alpha}$	$\overset{1}{\cdot}\tau^{\perp}_{\alpha}$	
$\overset{0}{\cdot}\tau^{\parallel}\dagger$	0	0	0	0	$\overset{1}{\cdot}\sigma^{\parallel}\dagger^{\alpha\beta}$	$\overset{1}{\cdot}\sigma^{\perp}\dagger^{\alpha\beta}$	$\overset{1}{\cdot}\tau^{\parallel}\dagger^{\alpha\beta}$	0	0	0	0	
$\overset{0}{\cdot}\tau^{\perp}\dagger$	0	0	0	0	$\overset{1}{\cdot}\sigma^{\parallel}\dagger^{\alpha}$	$\overset{1}{\cdot}\sigma^{\perp}\dagger^{\alpha}$	$\overset{1}{\cdot}\tau^{\parallel}\dagger^{\alpha}$	0	0	0	0	
$\overset{0}{\cdot}\sigma^{\perp}\dagger$	0	0	0	$\frac{1}{k^2\,r_{\cdot 2}-t_{\cdot 1}}$	$\overset{1}{\cdot}\sigma^{\parallel}\dagger^{\alpha\beta}$	$\overset{1}{\cdot}\sigma^{\perp}\dagger^{\alpha\beta}$	$\overset{1}{\cdot}\tau^{\parallel}\dagger^{\alpha\beta}$	$\overset{1}{\cdot}\sigma^{\parallel}\dagger^{\alpha}$	$\overset{1}{\cdot}\sigma^{\perp}\dagger^{\alpha}$	$\overset{1}{\cdot}\tau^{\parallel}\dagger^{\alpha}$	$\overset{1}{\cdot}\tau^{\perp}\dagger^{\alpha}$	
					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	
					$\overset{1}{\cdot}\sigma^{\perp}\dagger^{\alpha\beta}$	$-\frac{\sqrt{2}}{t_{\cdot 1}+k^2\,t_{\cdot 1}}$	$\frac{1}{(1+k^2)^2\,t_{\cdot 1}}$	$\frac{i\,k}{(1+k^2)^2\,t_{\cdot 1}}$	0	0	0	0
					$\overset{1}{\cdot}\tau^{\parallel}\dagger^{\alpha\beta}$	$\frac{i\,\sqrt{2}\,k}{t_{\cdot 1}+k^2\,t_{\cdot 1}}$	$-\frac{i\,k}{(1+k^2)^2\,t_{\cdot 1}}$	$\frac{k^2}{(1+k^2)^2\,t_{\cdot 1}}$	0	0	0	0
					$\overset{1}{\cdot}\sigma^{\parallel}\dagger^{\alpha}$	0	0	0	$\frac{6}{(3+4\,k^2)^2\,t_{\cdot 1}}$	$\frac{6\,\sqrt{2}}{(3+4\,k^2)^2\,t_{\cdot 1}}$	0	$\frac{12\,i\,k}{(3+4\,k^2)^2\,t_{\cdot 1}}$
					$\overset{1}{\cdot}\sigma^{\perp}\dagger^{\alpha}$	0	0	0	$\frac{6\,\sqrt{2}}{(3+4\,k^2)^2\,t_{\cdot 1}}$	$\frac{12}{(3+4\,k^2)^2\,t_{\cdot 1}}$	0	$\frac{12\,i\,\sqrt{2}\,k}{(3+4\,k^2)^2\,t_{\cdot 1}}$
					$\overset{1}{\cdot}\tau^{\parallel}\dagger^{\alpha}$	0	0	0	0	0	0	0
					$\overset{1}{\cdot}\tau^{\perp}\dagger^{\alpha}$	0	0	0	$-\frac{12\,i\,k}{(3+4\,k^2)^2\,t_{\cdot 1}}$	$-\frac{12\,i\,\sqrt{2}\,k}{(3+4\,k^2)^2\,t_{\cdot 1}}$	0	$\frac{24\,k^2}{(3+4\,k^2)^2\,t_{\cdot 1}}$
						$\overset{2}{\cdot}\sigma^{\parallel}_{\alpha\beta}$	$\overset{2}{\cdot}\tau^{\parallel}_{\alpha\beta}$	$\overset{2}{\cdot}\sigma^{\parallel}_{\alpha\beta\chi}$	$\overset{2}{\cdot}\sigma^{\parallel}\dagger^{\alpha\beta}$	$\frac{2}{(1+2\,k^2)^2\,t_{\cdot 1}}$	$-\frac{2\,i\,\sqrt{2}\,k}{(1+2\,k^2)^2\,t_{\cdot 1}}$	0
									$\overset{2}{\cdot}\tau^{\parallel}\dagger^{\alpha\beta}$	$\frac{2\,i\,\sqrt{2}\,k}{(1+2\,k^2)^2\,t_{\cdot 1}}$	$\frac{4\,k^2}{(1+2\,k^2)^2\,t_{\cdot 1}}$	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
$2ik\overset{1}{\cdot}\sigma^{\parallel\alpha} + \overset{1}{\cdot}\tau^{\perp\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} + 2\left(\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\beta}{}^{\chi}{}_{\beta} - \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi} + \partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\sigma^{\beta\alpha}{}_{\beta}\right) == \partial_{\chi}\partial^{\chi}\partial_{\beta\tau}(\Delta+\mathcal{K})^{\alpha\beta}$	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
$\overset{1}{\cdot}\sigma^{\parallel\alpha} == \overset{1}{\cdot}\sigma^{\perp\alpha}$	$\partial_{\chi}\partial^{\alpha}\sigma^{\beta}{}^{\chi}{}_{\beta} + \partial_{\chi}\partial^{\chi}\sigma^{\beta\alpha}{}_{\beta} == 0$	3
$ik\overset{1}{\cdot}\sigma^{\perp\alpha\beta} + \overset{1}{\cdot}\tau^{\parallel\alpha\beta} == 0$	$\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} + \partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\chi\alpha} + \partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\alpha\beta} + 2\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta} + 2\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\chi\alpha\beta} == \partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\beta} + \partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha\chi} + \partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\beta\alpha} + 2\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta}$	3
$-2ik\overset{2}{\cdot}\sigma^{\parallel\alpha\beta} + \overset{2}{\cdot}\tau^{\parallel\alpha\beta} == 0$	$-i\left(4\partial_{\delta}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\delta} + 2\partial_{\delta}\partial^{\delta}\partial^{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi}{}_{\chi} - 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi} - 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\beta} - 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha\chi} - 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\chi\alpha} + 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\alpha\beta} + 3\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\beta\alpha} + 4i k^{\chi}\partial_{\epsilon}\partial_{\chi}\partial^{\beta}\partial^{\alpha}\sigma^{\delta}{}^{\epsilon}{}_{\delta} - 6i k^{\chi}\partial_{\epsilon}\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\delta\beta\epsilon} - 6i k^{\chi}\partial_{\epsilon}\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\delta\alpha\epsilon} + 6i k^{\chi}\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\sigma^{\alpha\beta\delta} + 6i k^{\chi}\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi}\sigma^{\beta\alpha\delta} + 2\eta^{\alpha\beta}\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial_{\chi\tau}(\Delta+\mathcal{K})^{\chi\delta} - 2\eta^{\alpha\beta}\partial_{\epsilon}\partial^{\epsilon}\partial_{\delta}\partial^{\delta}\tau(\Delta+\mathcal{K})^{\chi}{}_{\chi} - 4i\eta^{\alpha\beta}k^{\chi}\partial_{\phi}\partial^{\phi}\partial_{\epsilon}\partial_{\chi}\sigma^{\delta}{}^{\epsilon}{}_{\delta}\right) == 0$	5
Total expected gauge generators:		19

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

(There are no massless particles)

Gauge symmetries

(Not yet implemented in PSALTer)

Unitarity conditions

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

Validity assumptions

(Not yet implemented in PSALTer)