

PSALTer results panel

$$S = \iiint \left(\mathcal{A}^{\alpha\beta\chi} \sigma_{\alpha\beta\chi} + f^{\alpha\beta} \tau_{(\Delta+\mathcal{K})\alpha\beta} + \frac{1}{3} t_{\dot{1}} \left(3 \mathcal{A}^{\alpha\dot{1}}_{\alpha} \mathcal{A}_{\dot{1}\theta}^{\theta} - 6 \mathcal{A}_{\alpha\theta}^{\theta} \partial_{\dot{1}f} f^{\alpha\dot{1}} + 6 \mathcal{A}_{\dot{1}\theta}^{\theta} \partial' f^{\alpha}_{\alpha} - 3 \partial_{\dot{1}f} \partial_{\theta} \partial' f^{\alpha}_{\alpha} - 3 \partial_{\dot{1}f} \partial_{\theta} \partial' f^{\alpha}_{\alpha} - 3 \partial_{\dot{1}f} \partial_{\theta} \partial' f^{\alpha}_{\alpha} + 6 \partial' f^{\alpha}_{\alpha} \partial_{\theta} f_{\dot{1}\theta}^{\theta} + 2 \mathcal{A}_{\dot{1}\theta\alpha} \partial^{\theta} f^{\alpha\dot{1}} - \right. \right. \\ \left. \left. 2 \partial_{\alpha\dot{1}\theta} \partial^{\theta} f^{\alpha\dot{1}} - 2 \partial_{\alpha\dot{1}\theta} \partial^{\theta} f^{\alpha\dot{1}} + \partial_{\dot{1}f} \partial_{\alpha\theta} \partial^{\theta} f^{\alpha\dot{1}} + 2 \partial_{\theta\dot{1}\alpha} \partial^{\theta} f^{\alpha\dot{1}} + \partial_{\theta\dot{1}\alpha} \partial^{\theta} f^{\alpha\dot{1}} + \mathcal{A}_{\alpha\dot{1}\theta} \left(\mathcal{A}^{\alpha\dot{1}\theta} + 2 \partial^{\theta} f^{\alpha\dot{1}} \right) + \mathcal{A}_{\alpha\theta\dot{1}} \left(\mathcal{A}^{\alpha\dot{1}\theta} + 4 \partial^{\theta} f^{\alpha\dot{1}} \right) \right) + \\ \left. r_{\dot{5}} \left(\partial_{\dot{5}} \mathcal{A}_{\theta\dot{5}}^{\dot{5}} \partial^{\theta} \mathcal{A}^{\alpha\dot{1}}_{\alpha} - \partial_{\theta\dot{5}} \mathcal{A}_{\dot{5}\dot{1}}^{\dot{1}} \partial^{\theta} \mathcal{A}^{\alpha\dot{1}}_{\alpha} - \left(\partial_{\alpha} \mathcal{A}^{\alpha\dot{1}\theta}_{\dot{1}} - 2 \partial^{\theta} \mathcal{A}^{\alpha\dot{1}}_{\dot{1}} \right) \left(\partial_{\dot{1}} \mathcal{A}_{\dot{5}\theta}^{\dot{5}} - \partial_{\dot{5}} \mathcal{A}_{\theta\dot{1}}^{\dot{1}} \right) \right) \right) [t, x, y, z] dz dy dx dt$$

Wave operator

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

Saturated propagator

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

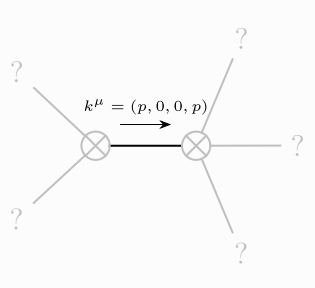
Source constraints

Spin-parity form	Covariant form	Multiplicities
$\overset{0}{\cdot}\overset{+}{\sigma}^{\parallel} == 0$	$\epsilon \eta_{\alpha\beta\chi\delta} \partial^{\delta} \sigma^{\alpha\beta\chi} == 0$	1
$\overset{0}{\cdot}\overset{+}{\tau}^{\perp} == 0$	$\partial_{\beta} \partial_{\alpha} \tau_{(\Delta+\mathcal{K})}^{\alpha\beta} == 0$	1
$-2 i k \overset{0}{\cdot}\overset{+}{\sigma}^{\parallel} + \overset{0}{\cdot}\overset{+}{\tau}^{\parallel} == 0$	$\partial_{\beta} \partial_{\alpha} \tau_{(\Delta+\mathcal{K})}^{\alpha\beta} == \partial_{\beta} \partial^{\beta} \tau_{(\Delta+\mathcal{K})}^{\alpha}{}_{\alpha} + 2 \partial_{\chi} \partial^{\chi} \partial_{\beta} \sigma^{\alpha}{}_{\alpha}{}^{\beta}$	1
$2 i k \overset{1}{\cdot}\overset{-}{\sigma}^{\perp\alpha} + \overset{1}{\cdot}\overset{-}{\tau}^{\perp\alpha} == 0$	$\partial_{\chi} \partial_{\beta} \partial^{\alpha} \tau_{(\Delta+\mathcal{K})}^{\beta\chi} == \partial_{\chi} \partial^{\chi} \partial_{\beta} \tau_{(\Delta+\mathcal{K})}^{\alpha\beta} + 2 \partial_{\delta} \partial^{\delta} \partial_{\chi} \partial_{\beta} \sigma^{\beta\alpha\chi}$	3
$\overset{1}{\cdot}\overset{-}{\tau}^{\parallel\alpha} == 0$	$\partial_{\chi} \partial_{\beta} \partial^{\alpha} \tau_{(\Delta+\mathcal{K})}^{\beta\chi} == \partial_{\chi} \partial^{\chi} \partial_{\beta} \tau_{(\Delta+\mathcal{K})}^{\beta\alpha}$	3
$i k \overset{1}{\cdot}\overset{-}{\sigma}^{\perp\alpha\beta} + \overset{1}{\cdot}\overset{-}{\tau}^{\parallel\alpha\beta} == 0$	$\partial_{\chi} \partial^{\alpha} \tau_{(\Delta+\mathcal{K})}^{\beta\chi} + \partial_{\chi} \partial^{\beta} \tau_{(\Delta+\mathcal{K})}^{\chi\alpha} + \partial_{\chi} \partial^{\chi} \tau_{(\Delta+\mathcal{K})}^{\alpha\beta} + 2 \partial_{\delta} \partial_{\chi} \partial^{\alpha} \sigma^{\chi\beta\delta} + 2 \partial_{\delta} \partial^{\delta} \partial_{\chi} \sigma^{\chi\alpha\beta} ==$ $\partial_{\chi} \partial^{\alpha} \tau_{(\Delta+\mathcal{K})}^{\chi\beta} + \partial_{\chi} \partial^{\beta} \tau_{(\Delta+\mathcal{K})}^{\alpha\chi} + \partial_{\chi} \partial^{\chi} \tau_{(\Delta+\mathcal{K})}^{\beta\alpha} + 2 \partial_{\delta} \partial_{\chi} \partial^{\beta} \sigma^{\chi\alpha\delta}$	3
$-2 i k \overset{2}{\cdot}\overset{+}{\sigma}^{\parallel\alpha\beta} + \overset{2}{\cdot}\overset{+}{\tau}^{\parallel\alpha\beta} == 0$	$-i \left(4 \partial_{\delta} \partial_{\chi} \partial^{\beta} \partial^{\alpha} \tau_{(\Delta+\mathcal{K})}^{\chi\delta} + 2 \partial_{\delta} \partial^{\delta} \partial_{\chi} \partial^{\alpha} \tau_{(\Delta+\mathcal{K})}^{\chi}{}_{\chi} - 3 \partial_{\delta} \partial^{\delta} \partial_{\chi} \partial^{\alpha} \tau_{(\Delta+\mathcal{K})}^{\beta\chi} - 3 \partial_{\delta} \partial^{\delta} \partial_{\chi} \partial^{\alpha} \tau_{(\Delta+\mathcal{K})}^{\chi\beta} - \right.$ $3 \partial_{\delta} \partial^{\delta} \partial_{\chi} \partial^{\beta} \tau_{(\Delta+\mathcal{K})}^{\alpha\chi} - 3 \partial_{\delta} \partial^{\delta} \partial_{\chi} \partial^{\beta} \tau_{(\Delta+\mathcal{K})}^{\chi\alpha} + 3 \partial_{\delta} \partial^{\delta} \partial_{\chi} \partial^{\chi} \tau_{(\Delta+\mathcal{K})}^{\alpha\beta} + 3 \partial_{\delta} \partial^{\delta} \partial_{\chi} \partial^{\chi} \tau_{(\Delta+\mathcal{K})}^{\beta\alpha} +$ $4 i k^{\chi} \partial_{\epsilon} \partial_{\chi} \partial^{\beta} \partial^{\alpha} \sigma^{\delta}{}_{\delta}{}^{\epsilon} - 6 i k^{\chi} \partial_{\epsilon} \partial_{\delta} \partial_{\chi} \partial^{\alpha} \sigma^{\delta\beta\epsilon} - 6 i k^{\chi} \partial_{\epsilon} \partial_{\delta} \partial_{\chi} \partial^{\beta} \sigma^{\delta\alpha\epsilon} + 6 i k^{\chi} \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial_{\chi} \sigma^{\alpha\beta\delta} +$ $\left. 6 i k^{\chi} \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial_{\chi} \sigma^{\beta\alpha\delta} + 2 \eta^{\alpha\beta} \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial_{\chi} \tau_{(\Delta+\mathcal{K})}^{\chi\delta} - 2 \eta^{\alpha\beta} \partial_{\epsilon} \partial^{\epsilon} \partial_{\delta} \partial^{\delta} \tau_{(\Delta+\mathcal{K})}^{\chi}{}_{\chi} - 4 i \eta^{\alpha\beta} k^{\chi} \partial_{\phi} \partial^{\phi} \partial_{\epsilon} \partial_{\chi} \sigma^{\delta}{}_{\delta}{}^{\epsilon} \right) == 0$	5
Total expected gauge generators:		17

Massive spectrum

(There are no massive particles)

Massless spectrum



Massless particle

Pole residue:	$\frac{9}{r_{\dot{5}}} + \frac{2 p^2}{\dot{t}_{\dot{1}}} + \frac{2 r_{\dot{5}} p^4}{\dot{t}_{\dot{1}}^2} > 0$
Polarisations:	2

Gauge symmetries

(Not yet implemented in PSALTer)

Unitarity conditions

$$r_{\dot{5}} > 0 \&\& \left(\dot{t}_{\dot{1}} < 0 \parallel \dot{t}_{\dot{1}} > 0 \right)$$

Validity assumptions

(Not yet implemented in PSALTer)