

PSALter results panel

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$$\iiint\!\!\!\int(\mathcal{A}^{\alpha\beta\chi}\sigma_{\alpha\beta\chi}+f^{\alpha\beta}\tau(\Delta+\mathcal{K})_{\alpha\beta}-\frac{1}{2}\alpha_{\dot{0}}(\mathcal{A}_{\alpha\chi\beta}\mathcal{A}^{\alpha\beta\chi}+\mathcal{A}^{\alpha\beta}_{\alpha}\mathcal{A}^{\chi}_{\beta\chi}+2f^{\alpha\beta}\partial_{\beta}\mathcal{A}^{\chi}_{\alpha\chi}-2\partial_{\beta}\mathcal{A}^{\alpha\beta}_{\alpha}-2f^{\alpha\beta}\partial_{\chi}\mathcal{A}^{\chi}_{\alpha\beta}+2f^{\alpha}_{\alpha}\partial_{\chi}\mathcal{A}^{\beta\chi}_{\beta})-\alpha_{\dot{1}}(\partial_{\chi}\mathcal{A}^{\delta}_{\beta\delta}\partial^{\chi}\mathcal{A}^{\alpha\beta}_{\alpha}+(\partial_{\alpha}\mathcal{A}^{\alpha\beta\chi}-2\partial^{\chi}\mathcal{A}^{\alpha\beta}_{\alpha})\partial_{\delta}\mathcal{A}^{\delta}_{\beta\chi})+4\alpha_{\dot{3}}\partial_{\beta}\mathcal{A}^{\alpha\beta}_{\alpha}\partial_{\delta}\mathcal{A}^{\chi\delta}_{\chi}-\alpha_{\dot{2}}(\partial_{\chi}\mathcal{A}^{\zeta}_{\delta\zeta}\partial^{\delta}\mathcal{A}^{\beta\chi}_{\beta}+(\partial_{\beta}\mathcal{A}^{\beta\chi\delta}-2\partial^{\delta}\mathcal{A}^{\beta\chi}_{\beta})\partial_{\zeta}\mathcal{A}^{\zeta}_{\delta\chi}))[t,x,y,z]dzdydxdt$$

Wave operator

$0^+\mathcal{A}^{\parallel}$	0^+f^{\parallel}	0^+f^{\perp}	$0^+\mathcal{A}^{\parallel}$								
$0^+\mathcal{A}^{\parallel}\dagger$	$\frac{1}{2}(\alpha_{\dot{0}}+4(\alpha_{\dot{1}}+\alpha_{\dot{2}}+3\alpha_{\dot{3}})k^2)-\frac{i\alpha_{\dot{0}}k}{\sqrt{2}}$	0	0	$1^+\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$\frac{1}{4}(\alpha_{\dot{0}}+2(\alpha_{\dot{1}}-\alpha_{\dot{2}})k^2)-\frac{\alpha_{\dot{0}}}{2\sqrt{2}}$	$\frac{i\alpha_{\dot{0}}k}{2\sqrt{2}}$	0	0	0	0	
$0^+f^{\parallel}\dagger$	$\frac{i\alpha_{\dot{0}}k}{\sqrt{2}}$	0	0	$1^+\mathcal{A}^{\perp}\dagger^{\alpha\beta}$	$\frac{\alpha_{\dot{0}}}{2\sqrt{2}}$	0	0	0	0	0	
$0^+f^{\perp}\dagger$	0	0	0	$1^+f^{\parallel}\dagger^{\alpha\beta}$	$-\frac{i\alpha_{\dot{0}}k}{2\sqrt{2}}$	0	0	0	0	0	
$0^+\mathcal{A}^{\parallel}\dagger$	0	0	$\frac{\alpha_{\dot{0}}}{2}$	$1^-\mathcal{A}^{\parallel}_{\alpha\beta}$	$1^-\mathcal{A}^{\perp}_{\alpha\beta}$	$1^+f^{\parallel}_{\alpha\beta}$	$1^-\mathcal{A}^{\parallel}_{\alpha}$	$1^-\mathcal{A}^{\perp}_{\alpha}$	$1^+f^{\parallel}_{\alpha}$	$1^+f^{\perp}_{\alpha}$	
				$1^+\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$\frac{1}{4}(\alpha_{\dot{0}}+2(\alpha_{\dot{1}}-\alpha_{\dot{2}})k^2)-\frac{\alpha_{\dot{0}}}{2\sqrt{2}}$	$\frac{i\alpha_{\dot{0}}k}{2\sqrt{2}}$	0	0	0	0	
				$1^+\mathcal{A}^{\perp}\dagger^{\alpha\beta}$	$\frac{\alpha_{\dot{0}}}{2\sqrt{2}}$	0	0	0	0	0	
				$1^+f^{\parallel}\dagger^{\alpha\beta}$	$-\frac{i\alpha_{\dot{0}}k}{2\sqrt{2}}$	0	0	0	0	0	
				$1^-\mathcal{A}^{\parallel}\dagger^{\alpha}$	0	0	0	$\frac{\alpha_{\dot{0}}}{4}+\alpha_{\dot{1}}k^2-\frac{\alpha_{\dot{0}}}{2\sqrt{2}}$	0	$-\frac{1}{2}i\alpha_{\dot{0}}k$	
				$1^-\mathcal{A}^{\perp}\dagger^{\alpha}$	0	0	0	$-\frac{\alpha_{\dot{0}}}{2\sqrt{2}}$	0	0	0
				$1^-f^{\parallel}\dagger^{\alpha}$	0	0	0	0	0	0	0
				$1^-f^{\perp}\dagger^{\alpha}$	0	0	0	$\frac{i\alpha_{\dot{0}}k}{2}$	0	0	0
				$2^+\mathcal{A}^{\parallel}_{\alpha\beta}$	$2^+f^{\parallel}_{\alpha\beta}$	$2^-\mathcal{A}^{\parallel}_{\alpha\beta\chi}$	$2^+\mathcal{A}^{\parallel}\dagger^{\alpha\beta}$	$\frac{1}{4}(-\alpha_{\dot{0}}+2(\alpha_{\dot{1}}+\alpha_{\dot{2}})k^2)-\frac{i\alpha_{\dot{0}}k}{2\sqrt{2}}$	$\frac{i\alpha_{\dot{0}}k}{2\sqrt{2}}$	0	
							$2^+f^{\parallel}\dagger^{\alpha\beta}$	$-\frac{i\alpha_{\dot{0}}k}{2\sqrt{2}}$	0	0	
							$2^-\mathcal{A}^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	$\frac{\alpha_{\dot{0}}}{4}$	

Saturated propagator

$0^+\sigma^{\parallel}$	$0^+\tau^{\parallel}$	$0^+\tau^{\perp}$	$0^+\sigma^{\parallel}$								
$0^+\sigma^{\parallel}\dagger$	0	$-\frac{i\sqrt{2}}{\alpha_{\dot{0}}k}$	0	0	$1^+\sigma^{\parallel}_{\alpha\beta}$	$1^+\sigma^{\perp}_{\alpha\beta}$	$1^+\tau^{\parallel}_{\alpha\beta}$	$1^-\sigma^{\parallel}_{\alpha}$	$1^-\sigma^{\perp}_{\alpha}$	$1^-\tau^{\parallel}_{\alpha}$	$1^-\tau^{\perp}_{\alpha}$
$0^+\tau^{\parallel}\dagger$	$\frac{i\sqrt{2}}{\alpha_{\dot{0}}k}$	$-\frac{4(\alpha_{\dot{1}}+\alpha_{\dot{2}}+3\alpha_{\dot{3}})+\frac{\alpha_{\dot{0}}}{k^2}}{\alpha_{\dot{0}}^2}$	0	0	$1^+\sigma^{\parallel}\dagger^{\alpha\beta}$	0	$\frac{2\sqrt{2}}{\alpha_{\dot{0}}+\alpha_{\dot{0}}k^2}$	$\frac{2i\sqrt{2}k}{\alpha_{\dot{0}}+\alpha_{\dot{0}}k^2}$	0	0	0
$0^+\tau^{\perp}\dagger$	0	0	0	0	$1^+\sigma^{\perp}\dagger^{\alpha\beta}$	$\frac{2\sqrt{2}}{\alpha_{\dot{0}}+\alpha_{\dot{0}}k^2}$	$-\frac{2(\alpha_{\dot{0}}+2(\alpha_{\dot{1}}-\alpha_{\dot{2}})k^2)}{\alpha_{\dot{0}}^2(1+k^2)^2}$	$-\frac{2ik(\alpha_{\dot{0}}+2(\alpha_{\dot{1}}-\alpha_{\dot{2}})k^2)}{\alpha_{\dot{0}}^2(1+k^2)^2}$	0	0	0
$0^+\sigma^{\parallel}\dagger$	0	0	0	$\frac{2}{\alpha_{\dot{0}}}$	$1^+\tau^{\parallel}\dagger^{\alpha\beta}$	$-\frac{2i\sqrt{2}k}{\alpha_{\dot{0}}+\alpha_{\dot{0}}k^2}$	$\frac{2ik(\alpha_{\dot{0}}+2(\alpha_{\dot{1}}-\alpha_{\dot{2}})k^2)}{\alpha_{\dot{0}}^2(1+k^2)^2}$	$-\frac{2k^2(\alpha_{\dot{0}}+2(\alpha_{\dot{1}}-\alpha_{\dot{2}})k^2)}{\alpha_{\dot{0}}^2(1+k^2)^2}$	0	0	0
					$1^-\sigma^{\parallel}\dagger^{\alpha}$	0	0	0	$-\frac{2\sqrt{2}}{\alpha_{\dot{0}}+2\alpha_{\dot{0}}k^2}$	0	$-\frac{4ik}{\alpha_{\dot{0}}+2\alpha_{\dot{0}}k^2}$
					$1^-\sigma^{\perp}\dagger^{\alpha}$	0	0	0	$-\frac{2\sqrt{2}}{\alpha_{\dot{0}}+2\alpha_{\dot{0}}k^2}$	$-\frac{2(\alpha_{\dot{0}}+4\alpha_{\dot{1}}k^2)}{(\alpha_{\dot{0}}+2\alpha_{\dot{0}}k^2)^2}$	$-\frac{2i\sqrt{2}k(\alpha_{\dot{0}}+4\alpha_{\dot{1}}k^2)}{(\alpha_{\dot{0}}+2\alpha_{\dot{0}}k^2)^2}$
					$1^-\tau^{\parallel}\dagger^{\alpha}$	0	0	0	0	0	0
					$1^-\tau^{\perp}\dagger^{\alpha}$	0	0	0	$\frac{4ik}{\alpha_{\dot{0}}+2\alpha_{\dot{0}}k^2}$	$\frac{2i\sqrt{2}k(\alpha_{\dot{0}}+4\alpha_{\dot{1}}k^2)}{(\alpha_{\dot{0}}+2\alpha_{\dot{0}}k^2)^2}$	$-\frac{4k^2(\alpha_{\dot{0}}+4\alpha_{\dot{1}}k^2)}{(\alpha_{\dot{0}}+2\alpha_{\dot{0}}k^2)^2}$
					$2^+\sigma^{\parallel}_{\alpha\beta}$	$2^+\tau^{\parallel}_{\alpha\beta}$	$2^-\sigma^{\parallel}_{\alpha\beta\chi}$	$2^+\sigma^{\parallel}\dagger^{\alpha\beta}$	0	$\frac{2i\sqrt{2}}{\alpha_{\dot{0}}k}$	0
								$2^+\tau^{\parallel}\dagger^{\alpha\beta}$	$-\frac{2i\sqrt{2}}{\alpha_{\dot{0}}k}$	$\frac{2(\alpha_{\dot{0}}-2(\alpha_{\dot{1}}+\alpha_{\dot{2}})k^2)}{\alpha_{\dot{0}}^2k^2}$	0
								$2^-\sigma^{\parallel}\dagger^{\alpha\beta\chi}$	0	0	$-\frac{4}{\alpha_{\dot{0}}}$

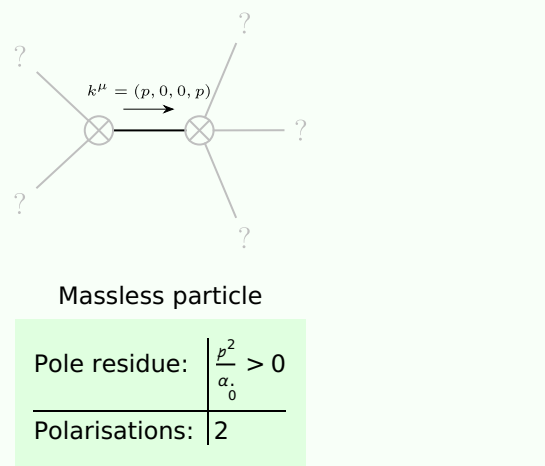
Source constraints

Spin-parity form	Covariant form	Multiplicities
$0^+\tau^{\perp}==0$	$\partial_{\beta}\partial_{\alpha}\tau(\Delta+\mathcal{K})^{\alpha\beta}==0$	1
$2ik\,1^-\sigma^{\perp\alpha}+1^-\tau^{\perp\alpha}==0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi}==\partial_{\chi}\partial^{\chi}\partial_{\beta}\tau(\Delta+\mathcal{K})^{\alpha\beta}+2\partial_{\delta}\partial^{\delta}\partial_{\chi}\partial_{\beta}\sigma^{\beta\alpha\chi}$	3
$1^-\tau^{\parallel\alpha}==0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi}==\partial_{\chi}\partial^{\chi}\partial_{\beta}\tau(\Delta+\mathcal{K})^{\beta\alpha}$	3
$ik\,1^+\sigma^{\perp\alpha\beta}+1^+\tau^{\parallel\alpha\beta}==0$	$\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\beta\chi}+\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\chi\alpha}+\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\alpha\beta}+2\partial_{\delta}\partial_{\chi}\partial^{\alpha}\sigma^{\chi\beta\delta}+2\partial_{\delta}\partial^{\delta}\partial_{\chi}\sigma^{\chi\alpha\beta}==\partial_{\chi}\partial^{\alpha}\tau(\Delta+\mathcal{K})^{\chi\beta}+\partial_{\chi}\partial^{\beta}\tau(\Delta+\mathcal{K})^{\alpha\chi}+\partial_{\chi}\partial^{\chi}\tau(\Delta+\mathcal{K})^{\beta\alpha}+2\partial_{\delta}\partial_{\chi}\partial^{\beta}\sigma^{\chi\alpha\delta}$	3
Total expected gauge generators:		10

Massive spectrum

(No particles)

Massless spectrum



Unitarity conditions

$\alpha_{\dot{0}}>0$