cle spec	e spectrograph												
operato	r and pro	pagator											
			$\Delta_{1^{+}lphaeta}^{\#1}$			$\Delta_{1+  lphaeta}^{\#2}$	$\Delta_{1}^{\#3}{}_{lphaeta}$	$\Delta_{1^{-}}^{\#1}{}_{lpha}$	$\Delta_{1^{-}}^{\#2}{}_{lpha}$	$\Delta_{1}^{#3}{}_{lpha}$	$\Delta_{1^{-}}^{\#4}{}_{lpha}$	$\Delta_{1}^{\#5}{}_{lpha}$	$\Delta_{1^{-}lpha}^{\#6}$ ${\mathcal T}_{1^{-}lpha}^{\#1}$
<b>Λ</b> #1 <b>+</b> αβ	4 (- 1		2 a <sub>1</sub> +a <sub>2</sub> -2 a <sub>5</sub> -6 a <sub>7</sub> +2 a <sub>9</sub>	_)   2 $\sqrt{2}$ (-	1	2 (2 a <sub>1</sub> +a <sub>2</sub> -2 a <sub>5</sub> -6 a <sub>7</sub> +2 a <sub>9</sub> )	4(2a <sub>1</sub> +a <sub>2</sub> +a <sub>9</sub> )	0	0	0	0	^	
$\Delta_{1}^{+}$ I	3 a <sub>0</sub> +4a <sub>1</sub> -4	$4a_2$ 2 $(2a_1+a_2)$ $(a_1+a_2)$	a <sub>5</sub> +3a <sub>7</sub> )+a <sub>9</sub> <sup>2</sup> +a <sub>0</sub> (2a <sub>1</sub> +a <sub>2</sub> -2a <sub>5</sub> -6a <sub>7</sub> +2a <sub>9</sub>	$a_{9}$ ) 3 $a_{0}$	+4 <i>a</i> <sub>1</sub> -4 <i>a</i> <sub>2</sub> 2(2 <i>a</i> <sub>1</sub> +	$a_2$ ) $(a_5+3a_7)+a_9^2+a_0$ $(2a_1+a_2-2a_5-6a_7+2a_9)'$	$3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))$	U		U	U	0	0
$\Delta_1^{#2} \dagger^{\alpha\beta}$	$\frac{2}{3} \sqrt{2} \left(-\frac{1}{a_0+4a_0}\right)$	$\frac{1}{a_1-4a_2} - \frac{2(2a_1+a_2)}{2(2a_1+a_2)}$	$\frac{2 (2 a_1 + a_2 - 2 a_5 - 6 a_7 + 2 a_9)}{) (a_5 + 3 a_7) + a_9^2 + a_0 (2 a_1 + a_2 - 2 a_5 - 6 a_7 + 2 a_9)}$	$\frac{2}{(a_0+4a_1-a_1)}$	$\frac{1}{3(2(2a_1+a_2))} + \frac{1}{3(2(2a_1+a_2))}$	$\frac{8(2a_1+a_2-2a_5-6a_7+2a_9)}{2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$\frac{4\sqrt{2}(2a_1+a_2+a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	0	0	0	0	0	0 0
Λ#3 + <sup>αβ</sup>			$(2a_1+a_2+a_9)$ + $a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))$	_	4 ·	$\sqrt{2} (2a_1 + a_2 + a_9)$	4 (a <sub>0</sub> -2 a <sub>1</sub> -a <sub>2</sub> )	0	0	0	0	0	
$\Delta_{1}^{+}$ (	3 (2	$2(2a_1+a_2)(a_5+3a_7)$	$+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))$	3	$(2(2a_1+a_2)(a_5+3a_7)$	$a_{1}^{2}+a_{0}(2a_{1}+a_{2}-2a_{5}-6a_{7}+2a_{9}))$	$3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))$	Ů	<u> </u>	U	Ů		O O
$\Delta_1^{\#1} \uparrow^{\alpha}$			0			0	0	$\frac{4(2a_1+a_2-2a_5-6a_7+2a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$\frac{4\sqrt{2}(2a_1+a_2-2a_5-6a_7+2a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	0	0	$-\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$\frac{4(2a_1+a_2+a_9)}{3\sqrt{3}(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$
$\Delta_1^{#2} \dagger^{\alpha}$			0			0	0	$\frac{4\sqrt{2}(2a_1+a_2-2a_5-6a_7+2a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$\frac{8(2a_1+a_2-2a_5-6a_7+2a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	0	0	$-\frac{8 (2 a_1+a_2+a_9)}{3 \sqrt{3} (2 (2 a_1+a_2) (a_5+3 a_7)+a_9^2+a_0 (2 a_1+a_2-2 a_5-6 a_7+2 a_9))}$	$\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$
$\Delta_1^{#3} + ^{\alpha}$			0			0	0	0	0	$-\frac{10}{9(a_0+2a_5-6a_7)}-\frac{1}{6(3a_0-2(a_5-8a_6+5a_7-4a_6))}$	$\frac{1}{18} \sqrt{5} \left( \frac{4}{a_0 + 2a_5 - 6a_7} - \frac{3}{3a_0 - 2a_5 + 16a_6 - 10a_7 + 8a_{13}k^2} \right)$		$-\frac{1}{9 a_0 - 6 (a_5 - 8 a_6 + 5 a_7 - 4 a_{13} k^2)}$
$\Delta_{1}^{#4} + ^{\alpha}$			0			0	0	0	0	$\frac{1}{18} \sqrt{5} \left( \frac{4}{a_0 + 2a_5 - 6a_7} - \frac{3}{3a_0 - 2a_5 + 16a_6 - 10a_6} \right)$	$\left(\frac{2}{a_7+8a_{13}k^2}\right) - \frac{2}{9(a_0+2a_5-6a_7)} - \frac{5}{6(3a_0-2(a_5-8a_6+5a_7-4a_{13}k^2))}$	$-\frac{\sqrt{\frac{5}{2}}}{9 a_0 - 6 (a_5 - 8 a_6 + 5 a_7 - 4 a_{13} k^2)}$	$-\frac{\sqrt{5}}{9 a_0 - 6 (a_5 - 8 a_6 + 5 a_7 - 4 a_{13} k^2)}$
$\Delta_{1}^{#5} + ^{a}$			0			0	0	$-\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$\frac{8(2a_1+a_2+a_9)}{3\sqrt{3}(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$-\frac{1}{\sqrt{2} (9 a_0 - 6 (a_5 - 8 a_6 + 5 a_7 - 4 a_{13} k^2))}$	$-\sqrt{\frac{5}{2}}$		$(\sqrt{2} (12a_0^2 - 3a_9^2 - a_0 (30a_1 + 15a_2 + 2a_5 - 64a_6 + 22a_7 + 6a_9 - 32a_{13}k^2) +$
$\Delta_{1}^{#6} + ^{a}$			0			0	0	$\frac{4(2a_1+a_2+a_9)}{3\sqrt{3}(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$-\frac{1}{9a_0-6(a_5-8a_6+5a_7-4a_{13}k^2)}$	$-\frac{\sqrt{5}}{9a_0-6(a_5-8a_6+5a_7-4a_{13}k^2)}$	$(\sqrt{2} (12a_0^2 - 3a_9^2 - a_0 (30a_1 + 15a_2 + 2a_5 - 64a_6 + 22a_7 + 6a_9 - 32a_{13}k^2) + 2(2a_1 + a_2)(a_5 - 32a_6 + 11a_7 - 16a_{13}k^2)))/$ $(9(2(2a_1 + a_2)(a_5 + 3a_7) + a_9^2 + a_0(2a_1 + a_2 - 2a_5 - 6a_7 + 2a_9))$ $(3a_0 - 2(a_5 - 8a_6 + 5a_7 - 4a_{13}k^2)))$	$\left  \frac{{}^{-4}a_0 + 8a_1 + 4a_2}{9(2(2a_1 + a_2)(a_5 + 3a_7) + a_9^2 + a_0(2a_1 + a_2 - 2a_5 - 6a_7 + 2a_9))} - \frac{2}{9a_0 - 6(a_5 - 8a_6 + 5a_7 - 4a_{13}k^2)} \right  0$
${\mathcal T}_1^{{\sharp} 1} {\dagger}^{lpha}$			0			0	0	0	0	0	0	0	0 0
	${\mathscr H}^{\sharp 1}_{1^+  lpha eta}$	${\mathscr H}_{1}^{{\sharp}_{2}}{}_{lphaeta}$	${\mathscr R}_{1}^{\#3}{}_{lphaeta}$	${\mathscr R}_{1}^{\sharp 1}{}_{lpha}$	${\cal A}_{1^-lpha}^{\#2}$	${\cal A}_{1}^{\#3}{}_{lpha}$	$\mathscr{R}_{1^{-}lpha}^{\#4}$	${\mathscr{R}}_1^{\#5}{}_{lpha}$	${\mathscr R}_{1^-lpha}^{\#6}$	$h_{1}^{\#1}{}_{\alpha}$			
$A_{1}^{\#1} + \alpha \beta \frac{1}{4} (-$	$a_0 - 6a_1 + 5a_2$	$\left(\frac{a_0+2a_1-3a_2}{2\sqrt{2}}\right)$	$\frac{1}{4} \left( -2 a_1 - a_2 - a_9 \right)$	0	0	0	0	0	0	0	Quadratic (free) action		
	$\frac{a_0 + 2a_1 - 3a_2}{2\sqrt{2}}$	$\frac{1}{2}(-2a_1+a_2)$		0	0	0	0	0	0	0	$\iiint (\frac{1}{24} (4 (-2 a_0 + 2 a_1 + a_2 - 12 a_6 + 2 a_9) \mathcal{R}_{\alpha \mu}^{\mu} \mathcal{R}_{\alpha \mu})$	$a^{\alpha\beta}_{\beta}$ - 3 ( $a_0$ + 8 $a_1$ - 2 $a_5$ - 18	
$A_{1}^{\#3} + \alpha \beta \frac{1}{4}$	-2a <sub>1</sub> -a <sub>2</sub> -a <sub>9</sub> )	$\frac{2a_1+a_2+a_9}{2a_1+a_2+a_9}$	$-\frac{3}{4}(2a_1+a_2-2a_5-6a_7+2a_9)$	0	0	0	0	0	0	0	$a_7 + 4 a_9) \mathcal{A}_{\alpha\beta\mu} \mathcal{A}^{\alpha\beta}$	··	
$\mathcal{H}_{1}^{\#1}$ † $\alpha$	0	0	•	$\frac{1}{12}(a_0 - 2a_1 - a_2)$	$\frac{a_0-2a_1-a_2}{6\sqrt{2}}$	0	0	$-\frac{2a_1+a_2+a_9}{2\sqrt{6}}$	$\frac{2a_1+a_2+a_9}{4\sqrt{3}}$	0	$12 a_2  \mathcal{R}_{\alpha\mu\beta}  \mathcal{R}^{\alpha\beta\mu} + 6 a_5  \mathcal{R}_{\alpha\mu\beta}$		
$\mathcal{A}_{1}^{\#2}$ † $^{lpha}$	0	0	0	$\frac{a_0 - 2 a_1 - a_2}{6 \sqrt{2}}$	$\frac{1}{6}(a_0 - 2a_1 - a_2)$	2) 0	0	$-\frac{2a_1+a_2+a_9}{2\sqrt{3}}$	$\frac{2a_1 + a_2 + a_9}{2\sqrt{6}}$	0	$egin{aligned} \mathcal{A}_{lpha\mueta} \ \mathcal{A}^{lphaeta\mu} - 12a_9 \ \mathcal{A}_{lpha\mueta} \ \mathcal{A}_5 \ \mathcal{A}^{lphaeta\mu} \ \mathcal{A}_{etalpha\mu} - 12a_0 \ \mathcal{A}^{lphaeta} \end{aligned}$		
$\mathcal{A}_{1}^{#3}$ † $^{lpha}$	0	0	0	0	0	$\frac{1}{12}$ (-9 $a_0$ - 14 $a_5$ - 8 $a_6$ + 50 $a_7$ - 4 $a_{13}$	$k^2$ ) $\frac{1}{3}\sqrt{5}(a_5-2a_6-a_7-a_{13}k^2)$	$\frac{-3a_0+2(a_5-8a_6+5a_7-4a_{13}k^2)}{12\sqrt{2}}$	$-\frac{a_0}{4} + \frac{1}{6} (a_5 - 8a_6 + 5a_7 - 4a_6)$	$a_{13} k^2$ ) 0	$24a_2\mathcal{A}^{lphaeta\mu}\mathcal{A}_{eta\mulpha}$ - $24a_5\mathcal{A}^{lphaeta}$	$^{\mu}$ $\mathcal{A}_{\beta\mulpha}^{}+$	
$\mathcal{A}_{1}^{\#4}$ † $^{lpha}$	0	0	0	0	0	$\frac{1}{3} \sqrt{5} (a_5 - 2 a_6 - a_7 - a_{13} k^2)$	$\frac{1}{12} \left( -9  a_0 + 2  a_5 - 40  a_6 + 34  a_7 - 20  a_{13}  k^2 \right)$	$\frac{1}{13} \sqrt{\frac{5}{2}} \left(-3 a_0 + 2 \left(a_5 - 8 a_6 + 5 a_7 - 4 a_{13} k^2\right)\right)$	) $\frac{1}{12}\sqrt{5}(-3a_0+2(a_5-8a_6+5a_6))$	$(7-4a_{13}k^2))$ 0	$12 a_9 \mathcal{A}^{\alpha\beta\mu} \mathcal{A}_{\beta\mu\alpha} + 2 a_0 \mathcal{A}^{\alpha}_{\alpha}$		
$\mathcal{A}_{1}^{\#5}\dagger^{lpha}$	0	0	0	$-\frac{2a_1+a_2+a_9}{2\sqrt{6}}$	$-\frac{2a_1+a_2+a_9}{2\sqrt{3}}$	$\frac{-3 a_0 + 2 (a_5 - 8 a_6 + 5 a_7 - 4 a_{13} k^2)}{12 \sqrt{2}}$	$\frac{1}{13} \sqrt{\frac{5}{3}} \left( -3a_0 + 2(a_5 - 8a_6 + 5a_7 - 4a_{13}k^2) \right)$	$\frac{1}{12} \left( -3 a_0 - 2 \left( 6 a_1 + 3 a_2 - 7 a_5 + 8 a_6 - 23 a_7 + 6 a_9 + 6 a_9 + 6 a_9 \right) \right)$		$9+8a_{13}k^2$ 0	$egin{aligned} 16a_1{\mathcal A}^{lpha}_{eta}{\mathcal A}^{eta}_{eta}_{\mu}^{} - 8a_2{\mathcal A}^{lpha}_{eta} \ \end{aligned} \ 12a_5{\mathcal A}^{lpha}_{eta}{\mathcal A}^{\mu}_{eta} + 12a_7{\mathcal A}^{lpha} \ \end{aligned}$		
$\mathcal{A}_{1}^{\#6}\dagger^{lpha}$	0	0	0	$ \begin{array}{c} 2 \sqrt{6} \\ 2 a_1 + a_2 + a_9 \\ 4 \sqrt{3} \end{array} $	$\frac{2 a_1 + a_2 + a_9}{2 \sqrt{6}}$	$-\frac{a_0}{4} + \frac{1}{6} (a_5 - 8 a_6 + 5 a_7 - 4 a_{13} k^2)$	12 4 2		$\frac{1}{12} \left( -6 a_0 - 6 a_1 - 3 a_2 + 10 a_5 - 32 a_6 + 38 \right)$	$a_7 - 6 a_9 - 16 a_{13} k^2$ 0	$12 a_9  \mathcal{A}^{\alpha \beta}_{\alpha}  \mathcal{A}^{\mu}_{\beta \mu} + 2 a_0  \mathcal{A}^{\alpha \beta}$		
$h_1^{\#1} + \alpha$	0	0	0	0	0	0	0	ο γ2	0	0	$12 a_5  \mathcal{A}^{\alpha\beta}_{ \alpha}  \mathcal{A}^{ \mu}_{\beta \mu} + 12 a_7  \mathcal{A}^{\alpha}$		
$\mathcal{A}^{\#1}_{o+}$	A#2		$\mathcal{A}^{\#3}_{0+}$	$\mathcal{A}_{0+}^{\#4}$	$h_{0+}^{\#1} h_{0+}^{\#2}$	$\mathcal{A}_{0}^{\#1}$					$4a_9~\mathcal{A}^{lphaeta}_{lpha}~\mathcal{A}^{\mu}_{eta\mu} + 24a_1~\mathcal{A}^{lphaeta}_{\mu}$ $12a_5~\mathcal{A}^{lphaeta\mu}~\mathcal{A}_{\muetalpha} + 12a_9~\mathcal{A}^{lpha}_{}$		

	$\mathcal{A}_{0}^{\#1}$	${\mathscr R}_0^{\#2}$	${\cal A}_0^{\#3}$	${\cal A}_{0}^{\#4}$	$h_{0}^{#1}$	$h_{0}^{\#2}$	$\mathcal{A}_0^{\sharp 1}$
${\cal R}_{0}^{\#1}\dagger$	0	0	0	0	0	0	0
$\mathcal{A}_{0}^{\#2}$ †	0	$\frac{1}{4}$ (-3 $a_0$ - 2 ( $a_5$ + 4 $a_6$ - 7 $a_7$ ))	$a_5$ - 2 $a_6$ - $a_7$	$\frac{-3 a_0 + 2 (a_5 - 8 a_6 + 5 a_7)}{4 \sqrt{2}}$	0	0	0
$\mathcal{A}_{0}^{#3}$ †	0	a <sub>5</sub> -2a <sub>6</sub> -a <sub>7</sub>	$\frac{1}{4}$ (-3 $a_0$ - 2 ( $a_5$ + 4 $a_6$ - 7 $a_7$ ))	$\frac{-3 a_0 + 2 (a_5 - 8 a_6 + 5 a_7)}{4 \sqrt{2}}$	0	0	0
$\mathcal{A}_{0}^{\#4}$ †	0	$\frac{-3a_0+2(a_5-8a_6+5a_7)}{4\sqrt{2}}$	$\frac{-3 a_0 + 2 (a_5 - 8 a_6 + 5 a_7)}{4 \sqrt{2}}$	$\frac{1}{4} \left( -3 a_0 + 2 \left( a_5 - 8 a_6 + 5 a_7 \right) \right)$	0	0	0
$h_{0}^{#1}$ †	0	0	0	0	$\frac{a_0 k^2}{4}$	0	0
$h_{0}^{\#2}$ †	0	0	0	0	0	0	0
$\mathcal{A}_0^{\sharp_1} \dagger$	0	0	0	0	0	0	$-\frac{a_0}{2} - 2 a_1 + 2 a_2$

Source constraints		
SO(3) irreps	Fundamental fields	Multiplicities
$\mathcal{T}_{0}^{\#2} == 0$	$\partial_{\beta}\partial_{\alpha}\mathcal{T}^{\alpha\beta}=0$	1
$\Delta_{0^{+}}^{\#3} + 3 \Delta_{0^{+}}^{\#2} == 2 \Delta_{0^{+}}^{\#4}$	$\partial_{\alpha} \Delta^{\alpha\beta}_{\beta} = 2 \left( \partial_{\beta} \Delta^{\alpha}_{\alpha}^{\beta} + \partial_{\beta} \Delta^{\alpha\beta}_{\alpha} \right)$	1
$\Delta_{0}^{\#1} == 0$	$\partial_{\beta} \Delta^{\alpha}_{\alpha}{}^{\beta} == \partial_{\beta} \Delta^{\alpha\beta}_{\alpha}$	1
$\mathcal{T}_{1}^{\#1\alpha} == 0$	$\partial_{\chi}\partial_{\beta}\partial^{\alpha}\mathcal{T}^{\beta\chi} == \partial_{\chi}\partial^{\chi}\partial_{\beta}\mathcal{T}^{\alpha\beta}$	3
$2 (\Delta_{1}^{\#6\alpha} + \Delta_{1}^{\#5\alpha}) ==$	$\partial_{\beta}\partial^{\alpha}\Delta^{\beta\chi}_{\chi}$ +	3
$\Delta_1^{\#4\alpha} + \Delta_1^{\#3\alpha}$	$2\left(\partial_{\chi}\partial^{\chi}\Delta^{\beta\alpha}_{\beta}+\partial_{\chi}\partial^{\chi}\Delta^{\beta}_{\beta}{}^{\alpha}\right)==$	
	$2 \partial_{\chi} \partial^{\alpha} \Delta^{\beta}_{\beta}^{\chi} + 2 \partial_{\chi} \partial^{\alpha} \Delta^{\beta \chi}_{\beta} +$	
	$\partial_{\chi}\partial^{\chi}\Delta^{lphaeta}_{eta}$	
$\Delta_1^{\#1\alpha} == \Delta_1^{\#2\alpha}$	$\partial_{\chi}\partial^{\alpha}\Delta^{\beta}{}_{\beta}{}^{\chi} + \partial_{\chi}\partial^{\chi}\Delta^{\beta\alpha}{}_{\beta} = =$	3
	$\partial_{\chi}\partial^{\alpha}\Delta^{\beta\chi}_{\beta} + \partial_{\chi}\partial^{\chi}\Delta^{\beta}_{\beta}^{\alpha}$	
Total constraints/gauge genera	ators:	12

			· '	$+12a_7\mathcal{A}^{lphaeta}_{lpha}\mathcal{A}_{eta\mu}^{\mu}$ -	
			$4a_9{\mathcal R}^{lphaeta}_{lpha}{\mathcal R}_{eta\mu}^{\mu}+$	$24a_1~\mathcal{A}^{lphaeta\mu}~\mathcal{A}_{\muetalpha}$ -	
			$12a_5~\mathcal{A}^{lphaeta\mu}~\mathcal{R}_{\muetalpha}$ -	$+12a_9~\mathcal{A}^{lphaeta\mu}~\mathcal{R}_{\muetalpha}^{}+$	
_ S			$4a_0\mathcal{A}^{lphaeta}_{lpha}\mathcal{A}^{\mu}_{eta\mu}$ - 2	$24a_7  \mathcal{A}^{\alpha}_{\alpha}{}^{\beta}  \mathcal{A}^{\mu}_{\beta\mu} +$	
			$4a_9~{\mathcal H}^{lpha}_{lpha}~{\mathcal H}^{\mu}_{eta}$ - 1	.2 $a_7  \mathcal{A}^{\alpha\beta}_{ \alpha}  \mathcal{A}^{\mu}_{ \beta\mu} +$	
			$8a_1 \mathcal{A}^{\alpha}_{\alpha}{}^{\beta} \mathcal{A}^{\mu}_{\mu\beta} +$	$4a_2\mathcal{A}^{lphaeta}_{lpha}\mathcal{A}^{\mu}_{\mueta}$ -	
_			$12a_7~{\mathcal A}^{lpha~eta}_{lpha}~{\mathcal A}^{\mu}_{\mueta}$ -	$+4a_9~\mathcal{A}^{lpha~eta}_{~~lpha}~\mathcal{A}^{\mu}_{~~\mueta}+24~h^{lphaeta}~\mathcal{T}_{lphaeta}$	<sub>8</sub> +
			24 $\mathcal{A}^{lphaeta\chi}$ $\Delta_{lphaeta\chi}$ -12	$a_0 \mathcal{A}^{\alpha\beta\mu} \partial_{\beta}h_{\alpha\mu} - 6 a_0 \mathcal{A}^{\alpha}_{\alpha}{}^{\beta} \partial_{\beta}h^{\mu}_{\mu}$	<sub>μ</sub> +
-			$6a_0{\cal A}^{lphaeta}_{lpha}\partial_{eta} h^{\mu}_{\mu}$ - $6$	$\partial_{\alpha_0} h^{\mu}_{\ \mu} \partial_{\beta} \mathcal{A}^{\alpha}_{\ \alpha}^{\ \beta} + \partial_{\alpha_0} h^{\mu}_{\ \mu} \partial_{\beta} \mathcal{A}^{\alpha_0}$	$\beta_{\alpha}$ -
			$12a_0\;h_{lpha\mu}\partial_{eta}\mathcal{A}^{lphaeta\mu}$ :	$+6a_0~h^{lphaeta}~\partial_{eta}\partial_{lpha}h^{\mu}_{~\mu}$ -	
			$3a_0\partial_{\beta}h^{\mu}_{\mu}\partial^{\beta}h^{\alpha}_{\alpha}+1$	$12a_0 \mathcal{A}^{\alpha}_{\alpha}{}^{\beta}\partial_{\mu}h_{\beta}{}^{\mu}+$	
			$6a_0\partial^{\beta}h^{\alpha}_{\alpha}\partial_{\mu}h_{\beta}^{\mu}-1$	$2a_0h^{\alpha\beta}\partial_\mu\partial_\beta h_\alpha^{\ \mu}+$	
-			$6a_0 h^{\alpha}_{\alpha} \partial_{\mu}\partial_{\beta}h^{\beta\mu} +$	$6a_0 h^{\alpha\beta} \partial_\mu \partial^\mu h_{\alpha\beta} - 6a_0 h^\alpha_{\ \alpha} \partial_\mu \partial^\mu h_{\alpha\beta}$	$\eta^{\beta}_{\beta}$ -
			$6 a_0 \partial_{\beta} h_{\alpha\mu} \partial^{\mu} h^{\alpha\beta} + 3$		·
-				$+24a_{13}\partial_{lpha}\mathcal{R}_{\mu\nu}^{ u}\partial^{\mu}\mathcal{R}_{\beta}^{eta}$ -	
			$24a_{13}\partial_{\mu}\mathcal{R}_{lpha u}^{ u}\partial^{\mu}\mathcal{R}$	$(\alpha \beta_{\beta})$ )[t, x, y, z]dzdydxdt	
$\mathcal{A}_{2}^{\#3}$	ıβ	$h_{2}^{\#1}{}_{lphaeta}$	${\mathscr R}_{\mathtt{2}^{-}  lpha eta \chi}^{\sharp 1}$	${\mathscr R}_{2^- \ lpha eta \chi}^{\# 2}$	
$\frac{1}{4} \sqrt{3} (2 a_1 +$	$+a_2 + a_9$ )	0	0	0	
0		0	0	0	

	$\Delta_{2}^{\#1}{}_{\alpha\beta}$	$\Delta^{\#2}_{2^+lphaeta}$	$\Delta_{2}^{\#3}{}_{lphaeta}$	${\mathcal T}^{\sharp 1}_{{ extstyle 2}^+  lphaeta}$	$\Delta^{\#1}_{2^-lphaeta\chi}$	$\Delta^{\#2}_{2^-lphaeta\chi}$
$\Delta_2^{\#1} \dagger^{lphaeta}$	$\frac{4 (2 a_1 + a_2 - 2 a_5 - 6 a_7 + 2 a_9)}{2 (2 a_1 + a_2) (a_5 + 3 a_7) + a_9^2 + a_0 (2 a_1 + a_2 - 2 a_5 - 6 a_7 + 2 a_9)}$	0	$-\frac{4 \left(2  a_{1}+a_{2}+a_{9}\right)}{\sqrt{3}  \left(2 \left(2  a_{1}+a_{2}\right) \left(a_{5}+3  a_{7}\right)+a_{9}^{2}+a_{0} \left(2  a_{1}+a_{2}-2  a_{5}-6  a_{7}+2  a_{9}\right)\right)}$	0	0	0
$\Delta_2^{\#2}$ † $^{lphaeta}$	0	$-\frac{4}{3(a_0+2a_5-6a_7)}$	0	0	0	0
$\Delta_{2}^{\#3} \dagger^{\alpha\beta}$	$-\frac{4 \left(2  a_{1}+a_{2}+a_{9}\right)}{\sqrt{3}  \left(2 \left(2  a_{1}+a_{2}\right) \left(a_{5}+3  a_{7}\right)+a_{9}^{2}+a_{0} \left(2  a_{1}+a_{2}-2  a_{5}-6  a_{7}+2  a_{9}\right)\right)}$	0	$-\frac{4 \left(a_{0}-2  a_{1}-a_{2}\right)}{3 \left(2 \left(2  a_{1}+a_{2}\right) \left(a_{5}+3  a_{7}\right)+a_{9}^{2}+a_{0} \left(2  a_{1}+a_{2}-2  a_{5}-6  a_{7}+2  a_{9}\right)\right)}$	0	0	0
${\mathcal T}_2^{\sharp 1} \dagger^{lphaeta}$	0	0	0	$-\frac{8}{a_0 k^2}$	0	0
$\Delta_{2}^{#1} \dagger^{\alpha\beta\chi}$	0	0	0	0	$\frac{4 (2 a_1 + a_2 - 2 a_5 - 6 a_7 + 2 a_9)}{2 (2 a_1 + a_2) (a_5 + 3 a_7) + a_9^2 + a_0 (2 a_1 + a_2 - 2 a_5 - 6 a_7 + 2 a_9)}$	$-\frac{4 \left(2  a_{1}+a_{2}+a_{9}\right)}{\sqrt{3}  \left(2 \left(2  a_{1}+a_{2}\right) \left(a_{5}+3  a_{7}\right)+a_{9}^{2}+a_{0} \left(2  a_{1}+a_{2}-2  a_{5}-6  a_{7}+2  a_{9}\right)\right)}$
$\Delta_2^{#2} \dagger^{\alpha\beta\chi}$	0	0	0	0	$-\frac{4 \left(2  a_{1}+a_{2}+a_{9}\right)}{\sqrt{3}  \left(2 \left(2  a_{1}+a_{2}\right) \left(a_{5}+3  a_{7}\right)+a_{9}^{2}+a_{0} \left(2  a_{1}+a_{2}-2  a_{5}-6  a_{7}+2  a_{9}\right)\right)}$	$-\frac{4 \left(a_{0}-2  a_{1}-a_{2}\right)}{3 \left(2 \left(2  a_{1}+a_{2}\right) \left(a_{5}+3  a_{7}\right)+a_{9}^{2}+a_{0} \left(2  a_{1}+a_{2}-2  a_{5}-6  a_{7}+2  a_{9}\right)\right)}$

	${\cal A}^{\#1}_{2^+lphaeta}$	$\mathcal{A}^{\#2}_{2^+lphaeta}$	${\cal A}_{2}^{\#3}{}_{lphaeta}$	$h_{2}^{\#1}{}_{lphaeta}$	${\mathscr{R}}_{2^{-}\; lphaeta\chi}^{\sharp 1}$	${\mathcal H}_{2^-  lphaeta\chi}^{\#2}$
$\mathcal{A}_{2}^{\#1}\dagger^{lphaeta}$	$\frac{1}{4} (a_0 - 2 a_1 - a_2)$	0	$-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$	0	0	0
$\mathcal{A}_2^{\#2}$ $\dagger^{lphaeta}$	0	$-\frac{3}{4}(a_0+2a_5-6a_7)$	0	0	0	0
$\mathcal{A}_2^{\sharp 3} \dagger^{lpha eta}$	$-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$	0	$-\frac{3}{4}(2a_1+a_2-2a_5-6a_7+2a_9)$	0	0	0
$h_2^{\#1} \dagger^{\alpha\beta}$	0	0	0	$-\frac{a_0 k^2}{8}$	0	0
$\mathcal{A}_{2}^{\sharp_{1}}\!\dagger^{lphaeta\chi}$	0	0	0	0	$\frac{1}{4} (a_0 - 2 a_1 - a_2)$	$-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$
$\mathcal{A}_{2}^{\#2}\dagger^{lphaeta\chi}$	0	0	0	0	$-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$	$-\frac{3}{4}(2a_1+a_2-2a_5-6a_7+2a_9)$
						_

_	$\Delta_0^{\#1}$	$\Delta_0^{\#2}$	Δ <sub>0</sub> #3	$\Delta_0^{\#4}$	${\cal T}_0^{\#1}$	${\cal T}_0^{\#2}$	$\Delta_0^{\#1}$
+	0	0	0	0	0	0	0
+	0	$-\frac{2}{3(a_0+2a_5-6a_7)}-\frac{1}{6a_0-4(a_5-8a_6+5a_7)}$	$\frac{2}{3(a_0+2a_5-6a_7)} - \frac{1}{6a_0-4(a_5-8a_6+5a_7)}$	$-\frac{1}{\sqrt{2} (3 a_0 - 2 (a_5 - 8 a_6 + 5 a_7))}$	0	0	0
†	0	$\frac{2}{3(a_0+2a_5-6a_7)} - \frac{1}{6a_0-4(a_5-8a_6+5a_7)}$	$-\frac{2}{3(a_0+2a_5-6a_7)}-\frac{1}{6a_0-4(a_5-8a_6+5a_7)}$	$-\frac{1}{\sqrt{2} (3 a_0 - 2 (a_5 - 8 a_6 + 5 a_7))}$	0	0	0
†	0	$-\frac{1}{\sqrt{2} (3a_0-2(a_5-8a_6+5a_7))}$	$-\frac{1}{\sqrt{2} (3 a_0 - 2 (a_5 - 8 a_6 + 5 a_7))}$	$\frac{1}{-3 a_0 + 2 (a_5 - 8 a_6 + 5 a_7)}$	0	0	0
†	0	0	0	0	$\frac{4}{a_0 k^2}$	0	0
†	0	0	0	0	0	0	0
†	0	0	0	0	0	0	$-\frac{2}{a_0+4a_1-4a_2}$

## Massive and massless spectra

	Massive particle				
? /	Pole residue:	$\left \frac{1}{4a_{13}}>0\right $			
$J^P = 1^-$	Polarisations:	3			
	Square mass:	-3a <sub>0</sub> +2(a <sub>5</sub> -8a <sub>6</sub> +5a <sub>7</sub> )			
?	Square mass.	8 <i>a</i> <sub>13</sub>			
?	Spin:	1			
	Parity:	Odd			

?	Quadratic pole	)
?	Pole residue:	$-\frac{1}{a_0}$ >
?	Polarisations:	2
(		

Unitarity conditions

 $a_0 < 0 \&\& a_7 > \frac{1}{10} (3 a_0 - 2 a_5 + 16 a_6) \&\& a_{13} > 0$