Particle spectrograph

Wave operator and propagator

	$\Delta^{\#1}_{1^+\alpha\beta}$	$\Delta^{\#2}_{1^+\alpha\beta}$	$\Delta^{\#3}_{1^+\alpha\beta}$	$\Delta^{\#1}_{1^-\alpha}$	$\Delta^{\#2}_{1^-\alpha}$	$\Delta^{\#3}_{1^-\alpha}$	$\Delta^{\#4}_{1^-\alpha}$	$\Delta^{\#5}_{1^-\alpha}$	$\Delta^{\#6}_{1^-\alpha}$	$\mathcal{T}^{\#1}_{1^-\alpha}$
$\Delta^{\#1}_{1^+}{}^{\dagger\alpha\beta}$	$\frac{4}{3}(-\frac{1}{a_0+4a_1-4a_2}+(a_0-4a_1-2a_2-3a_3+16a_6-4a_7-2a_9)/(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9)))$	$\frac{2}{3}\sqrt{2}(-\frac{1}{a_0+4a_1-4a_2}+(-2a_0+8a_1+4a_2+6a_3-32a_6+8a_7+4a_9)/(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9)))$	$\frac{4(2a_1+a_2+a_9)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	0	0	0	0	0	0	0
$\Delta^{\#2}_{1^+}{}^{\dagger\alpha\beta}$	$\frac{2}{3}\sqrt{2}(-\frac{1}{a_0+4a_1-4a_2}+(-2a_0+8a_1+4a_2+6a_3-32a_6+8a_7+4a_9)/(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9)))$	$-\frac{2}{3(a_0+4a_1-4a_2)}+\frac{8(a_0-4a_1-2a_2-3a_3+16a_6-4a_7-2a_9)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	$-\frac{4\sqrt{2}(2a_1+a_2+a_9)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	0	0	0	0	0	0	0
$\Delta^{\#3}_{1^+}{}^{\dagger\alpha\beta}$	$\frac{4(2a_1+a_2+a_9)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	$-\frac{4\sqrt{2}(2a_1+a_2+a_9)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	$\frac{4(a_0-2a_1-a_2)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	0	0	0	0	0	0	0
$\Delta^{\#1}_{1^-}{}^{\dagger\alpha}$	0	0	0	$\frac{4}{3}(-\frac{2}{2a_0+2a_1+a_2+3a_3}+(a_0-4a_1-2a_2-3a_3+16a_6-4a_7-2a_9)/(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9)))$	$(4\sqrt{2}(3a_0^2-4a_1^2-a_2^2-3a_3(3a_3+4(-4a_6+a_7))-6a_3a_9-a_9^2-2a_2(3a_3+a_9)-4a_1(a_2+3a_3+a_9)-6a_0(2a_1+a_2+a_3-8a_6+2a_7+a_9)))/(3(2a_0+2a_1+a_2+3a_3)(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9)))$	0	0	$\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+a_9)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	$-((4(2a_1+a_2+a_9))/(3\sqrt{3}(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))))$	0
$\Delta^{\#2}_{1^-}{}^{\dagger\alpha}$	0	0	0	$(4\sqrt{2}(3a_0^2-4a_1^2-a_2^2-3a_3(3a_3+4(-4a_6+a_7))-6a_3a_9-a_9^2-2a_2(3a_3+a_9)-4a_1(a_2+3a_3+a_9)-6a_0(2a_1+a_2+a_3-8a_6+2a_7+a_9)))/(3(2a_0+2a_1+a_2+3a_3)(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9)))$	$-\frac{4}{3(2a_0+2a_1+a_2+3a_3)}+\frac{8(a_0-4a_1-2a_2-3a_3+16a_6-4a_7-2a_9)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	0	0	$\frac{8(2a_1+a_2+a_9)}{3\sqrt{3}(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	$-\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+a_9)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	0
$\Delta^{\#3}_{1^-}{}^{\dagger\alpha}$	0	0	0	0	0	$-\frac{5}{18(a_0+4a_6-4a_7)}$	$\frac{\sqrt{5}}{18(a_0+4a_6-4a_7)}$	0	0	0
$\Delta^{\#4}_{1^-}{}^{\dagger\alpha}$	0	0	0	0	0	$\frac{\sqrt{5}}{18(a_0+4a_6-4a_7)}$	$\frac{1}{-18(a_0+4a_6)+72a_7}$	0	0	0
$\Delta^{\#5}_{1^-}{}^{\dagger\alpha}$	0	0	0	$\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+a_9)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	$\frac{8(2a_1+a_2+a_9)}{3\sqrt{3}(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	0	0	$\frac{8(a_0-2a_1-a_2)}{9(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	$\frac{4\sqrt{2}(-a_0+2a_1+a_2)}{9(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	0
$\Delta^{\#6}_{1^-}{}^{\dagger\alpha}$	0	0	0	$-((4(2a_1+a_2+a_9))/(3\sqrt{3}(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))))$	$-\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+a_9)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	0	0	$\frac{4\sqrt{2}(-a_0+2a_1+a_2)}{9(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	$\frac{4(a_0-2a_1-a_2)}{9(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	0
$\mathcal{T}^{\#1}_{1^-}{}^{\dagger\alpha}$	0	0	0	0	0	0	0	0	0	0

Quadratic (free) action

$$\mathcal{S} == \iiiint\Big(\tfrac{1}{24}\big(4(4a_1+2a_2+3a_3-12a_6+2a_9)\mathcal{A}_\alpha{}^\chi{}_\chi\mathcal{A}^{\alpha\beta}{}_\beta-6(a_0+6a_1+a_2+3a_3-8a_6-4a_7+2a_9)\mathcal{A}_{\alpha\beta\chi}\mathcal{A}^{\alpha\beta\chi}-6a_0\mathcal{A}_{\alpha\chi\beta}\mathcal{A}^{\alpha\beta\chi}-12a_1\mathcal{A}_{\alpha\chi\beta}\mathcal{A}^{\alpha\beta\chi}-18a_2\mathcal{A}_{\alpha\chi\beta}\mathcal{A}^{\alpha\beta\chi}-$$
$$18a_3\mathcal{A}_{\alpha\chi\beta}\mathcal{A}^{\alpha\beta\chi}+48a_6\mathcal{A}_{\alpha\chi\beta}\mathcal{A}^{\alpha\beta\chi}+24a_7\mathcal{A}_{\alpha\chi\beta}\mathcal{A}^{\alpha\beta\chi}-12a_9\mathcal{A}_{\alpha\chi\beta}\mathcal{A}^{\alpha\beta\chi}-12a_0\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\beta\alpha\chi}+$$
$$6a_1\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\beta\alpha\chi}-9a_2\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\beta\alpha\chi}+9a_3\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\beta\alpha\chi}-$$
$$96a_6\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\beta\alpha\chi}+60a_7\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\beta\alpha\chi}-$$
$$36a_0\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\beta\chi\alpha}+12a_1\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\beta\chi\alpha}+$$
$$30a_2\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\beta\chi\alpha}+18a_3\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\beta\chi\alpha}-$$
$$192a_6\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\beta\chi\alpha}+120a_7\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\beta\chi\alpha}+$$
$$12a_9\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\beta\chi\alpha}+12a_0\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}_\beta{}^\chi{}_\chi-$$
$$24a_1\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}_\beta{}^\chi{}_\chi-12a_2\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}_\beta{}^\chi{}_\chi-$$
$$12a_3\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}_\beta{}^\chi{}_\chi+96a_6\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}_\beta{}^\chi{}_\chi-$$
$$48a_7\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}_\beta{}^\chi{}_\chi-12a_9\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}_\beta{}^\chi{}_\chi+$$
$$12a_0\mathcal{A}^{\alpha\beta}{}_\alpha\mathcal{A}_\beta{}^\chi{}_\chi-8a_1\mathcal{A}^{\alpha\beta}{}_\alpha\mathcal{A}_\beta{}^\chi{}_\chi-4a_2\mathcal{A}^{\alpha\beta}{}_\alpha\mathcal{A}_\beta{}^\chi{}_\chi-$$
$$12a_3\mathcal{A}^{\alpha\beta}{}_\alpha\mathcal{A}_\beta{}^\chi{}_\chi+96a_6\mathcal{A}^{\alpha\beta}{}_\alpha\mathcal{A}_\beta{}^\chi{}_\chi-$$
$$48a_7\mathcal{A}^{\alpha\beta}{}_\alpha\mathcal{A}_\beta{}^\chi{}_\chi-4a_9\mathcal{A}^{\alpha\beta}{}_\alpha\mathcal{A}_\beta{}^\chi{}_\chi-$$
$$12a_0\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\chi\beta\alpha}+30a_1\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\chi\beta\alpha}+$$
$$3a_2\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\chi\beta\alpha}+9a_3\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\chi\beta\alpha}-$$
$$96a_6\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\chi\beta\alpha}+60a_7\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\chi\beta\alpha}+$$
$$12a_9\mathcal{A}^{\alpha\beta\chi}\mathcal{A}_{\chi\beta\alpha}+12a_0\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}^\chi{}_{\beta\chi}+$$
$$8a_1\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}^\chi{}_{\beta\chi}+4a_2\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}^\chi{}_{\beta\chi}+$$
$$12a_3\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}^\chi{}_{\beta\chi}-24a_7\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}^\chi{}_{\beta\chi}+$$
$$4a_9\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}^\chi{}_{\beta\chi}-12a_7\mathcal{A}^{\alpha\beta}{}_\alpha\mathcal{A}^\chi{}_{\beta\chi}+$$
$$8a_1\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}^\chi{}_{\chi\beta}+4a_2\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}^\chi{}_{\chi\beta}-$$
$$12a_7\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}^\chi{}_{\chi\beta}+4a_9\mathcal{A}^\alpha{}_\alpha{}^\beta\mathcal{A}^\chi{}_{\chi\beta}+$$
$$24h^{\alpha\beta}\mathcal{T}_{\alpha\beta}+24\mathcal{A}^{\alpha\beta\chi}\Delta_{\alpha\beta\chi}-12a_0\mathcal{A}^{\alpha\beta\chi}\partial_\beta h_{\alpha\chi}-$$
$$6a_0\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\beta h^\chi{}_\chi+6a_0\mathcal{A}^{\alpha\beta}{}_\alpha\partial_\beta h^\chi{}_\chi-6a_0 h^\chi{}_\chi\partial_\beta\mathcal{A}^\alpha{}_\alpha{}^\beta+$$
$$6a_0 h^\chi{}_\chi\partial_\beta\mathcal{A}^{\alpha\beta}{}_\alpha-12a_0 h_{\alpha\chi}\partial_\beta\mathcal{A}^{\alpha\beta\chi}+$$
$$6a_0 h^{\alpha\beta}\partial_\beta\partial_\alpha h^\chi{}_\chi-3a_0\partial_\beta h^\chi{}_\chi\partial^\beta h^\alpha{}_\alpha+$$
$$12a_0\mathcal{A}^\alpha{}_\alpha{}^\beta\partial_\chi h_\beta{}^\chi+6a_0\partial^\beta h^\alpha{}_\alpha\partial_\chi h_\beta{}^\chi-$$
$$12a_0 h^{\alpha\beta}\partial_\chi\partial_\beta h_\alpha{}^\chi+6a_0 h^\alpha{}_\alpha\partial_\chi\partial_\beta h^{\beta\chi}+$$
$$6a_0 h^{\alpha\beta}\partial_\chi\partial^\chi h_{\alpha\beta}-6a_0 h^\alpha{}_\alpha\partial_\chi\partial^\chi h^\beta{}_\beta-6a_0\partial_\beta h_{\alpha\chi}\partial^\chi h^{\alpha\beta}+$$
$$3a_0\partial_\chi h_{\alpha\beta}\partial^\chi h^{\alpha\beta}+12a_0 h_{\beta\chi}\partial^\chi\mathcal{A}^\alpha{}_\alpha{}^\beta+$$
$$48a_1\partial_\alpha\mathcal{A}_{\beta\chi\mu}\partial^\mu\mathcal{A}^{\alpha\beta\chi}-48a_1\partial_\alpha\mathcal{A}_{\beta\mu\chi}\partial^\mu\mathcal{A}^{\alpha\beta\chi}-$$
$$48a_1\partial_\alpha\mathcal{A}_{\chi\beta\mu}\partial^\mu\mathcal{A}^{\alpha\beta\chi}+48a_1\partial_\alpha\mathcal{A}_{\chi\mu\beta}\partial^\mu\mathcal{A}^{\alpha\beta\chi}+$$
$$24a_1\partial_\alpha\mathcal{A}_{\mu\beta\chi}\partial^\mu\mathcal{A}^{\alpha\beta\chi}-24a_1\partial_\alpha\mathcal{A}_{\mu\chi\beta}\partial^\mu\mathcal{A}^{\alpha\beta\chi}-$$
$$48a_1\partial_\beta\mathcal{A}_{\alpha\chi\mu}\partial^\mu\mathcal{A}^{\alpha\beta\chi}+24a_1\partial_\beta\mathcal{A}_{\alpha\mu\chi}\partial^\mu\mathcal{A}^{\alpha\beta\chi}-$$
$$24a_1\partial_\beta\mathcal{A}_{\chi\mu\alpha}\partial^\mu\mathcal{A}^{\alpha\beta\chi}+24a_1\partial_\chi\mathcal{A}_{\alpha\beta\mu}\partial^\mu\mathcal{A}^{\alpha\beta\chi}-$$
$$24a_1\partial_\chi\mathcal{A}_{\beta\alpha\mu}\partial^\mu\mathcal{A}^{\alpha\beta\chi}+48a_1\partial_\chi\mathcal{A}_{\beta\mu\alpha}\partial^\mu\mathcal{A}^{\alpha\beta\chi}-$$
$$24a_1\partial_\mu\mathcal{A}_{\alpha\beta\chi}\partial^\mu\mathcal{A}^{\alpha\beta\chi}+24a_1\partial_\mu\mathcal{A}_{\alpha\chi\beta}\partial^\mu\mathcal{A}^{\alpha\beta\chi}+$$
$$24a_1\partial_\mu\mathcal{A}_{\beta\alpha\chi}\partial^\mu\mathcal{A}^{\alpha\beta\chi}-48a_1\partial_\mu\mathcal{A}_{\beta\chi\alpha}\partial^\mu\mathcal{A}^{\alpha\beta\chi}+$$
$$24a_1\partial_\mu\mathcal{A}_{\chi\beta\alpha}\partial^\mu\mathcal{A}^{\alpha\beta\chi}+24a_1\partial_\chi\partial_\beta h_{\alpha\mu}\partial^\mu\partial^\chi h^{\alpha\beta}-$$
$$24a_1\partial_\mu\partial_\beta h_{\alpha\chi}\partial^\mu\partial^\chi h^{\alpha\beta}\big)\Big)[t,x,y,z]\,dz\,dy\,dx\,dt$$

	$\Delta^{\#1}_{2^+\alpha\beta}$	$\Delta^{\#2}_{2^+\alpha\beta}$	$\Delta^{\#3}_{2^+\alpha\beta}$	$\mathcal{T}^{\#1}_{2^+\alpha\beta}$	$\Delta^{\#1}_{2^-\alpha\beta\chi}$	$\Delta^{\#2}_{2^-\alpha\beta\chi}$
$\Delta^{\#1}_{2^+}{}^{\dagger\alpha\beta}$	$\frac{4(a_0-4a_1-2a_2-3a_3+16a_6-4a_7-2a_9)}{a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9)}$	0	$\frac{4(2a_1+a_2+a_9)}{\sqrt{3}(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	0	0	0
$\Delta^{\#2}_{2^+}{}^{\dagger\alpha\beta}$	0	$\frac{1}{-3(a_0+4a_6)+12a_7}$	0	0	0	0
$\Delta^{\#3}_{2^+}{}^{\dagger\alpha\beta}$	$\frac{4(2a_1+a_2+a_9)}{\sqrt{3}(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	0	$\frac{4(a_0-2a_1-a_2)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	0	0	0
$\mathcal{T}^{\#1}_{2^+}{}^{\dagger\alpha\beta}$	0	0	0	$-\frac{8}{a_0k^2}$	0	0
$\Delta^{\#1}_{2^-}{}^{\dagger\alpha\beta\chi}$	0	0	0	0	$\frac{4(a_0-4a_1-2a_2-3a_3+16a_6-4a_7-2a_9)}{a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9)}$	$\frac{4(2a_1+a_2+a_9)}{\sqrt{3}(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$
$\Delta^{\#2}_{2^-}{}^{\dagger\alpha\beta\chi}$	0	0	0	0	$\frac{4(2a_1+a_2+a_9)}{\sqrt{3}(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	$\frac{4(a_0-2a_1-a_2)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$

	$\mathcal{A}^{\#1}_{2^+\alpha\beta}$	$\mathcal{A}^{\#2}_{2^+\alpha\beta}$	$\mathcal{A}^{\#3}_{2^+\alpha\beta}$	$h^{\#1}_{2^+\alpha\beta}$	$\mathcal{A}^{\#1}_{2^-\alpha\beta\chi}$	$\mathcal{A}^{\#2}_{2^-\alpha\beta\chi}$
$\mathcal{A}^{\#1}_{2^+}{}^{\dagger\alpha\beta}$	$\frac{1}{4}(a_0-2a_1-a_2)$	0	$-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$	0	0	0
$\mathcal{A}^{\#2}_{2^+}{}^{\dagger\alpha\beta}$	0	$-3(a_0+4a_6-4a_7)$	0	0	0	0
$\mathcal{A}^{\#3}_{2^+}{}^{\dagger\alpha\beta}$	$-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$	0	$\frac{3}{4}(a_0-4a_1-2a_2-3a_3+16a_6-4a_7-2a_9)$	0	0	0
$h^{\#1}_{2^+}{}^{\dagger\alpha\beta}$	0	0	0	$-\frac{a_0k^2}{8}$	0	0
$\mathcal{A}^{\#1}_{2^-}{}^{\dagger\alpha\beta\chi}$	0	0	0	0	$\frac{1}{4}(a_0-2a_1-a_2)$	$-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$
$\mathcal{A}^{\#2}_{2^-}{}^{\dagger\alpha\beta\chi}$	0	0	0	0	$-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$	$\frac{3}{4}(a_0-4a_1-2a_2-3a_3+16a_6-4a_7-2a_9)$

Source constraints

SO(3) irreps	Fundamental fields	Multiplicities
$\mathcal{T}^{\#2}_{0^+} == 0$	$\partial_\beta\partial_\alpha\mathcal{T}^{\alpha\beta} == 0$	1
$\Delta^{\#4}_{0^+} == 0$	$2\partial_\alpha\Delta^{\alpha\beta}{}_\beta == \partial_\beta\Delta^\alpha{}_\alpha{}^\beta+\partial_\beta\Delta^{\alpha\beta}{}_\alpha$	1
$\Delta^{\#3}_{0^+}+3\Delta^{\#2}_{0^+} == 0$	$\partial_\alpha\Delta^{\alpha\beta}{}_\beta+\partial_\beta\Delta^\alpha{}_\alpha{}^\beta+\partial_\beta\Delta^{\alpha\beta}{}_\alpha == 0$	1
$\mathcal{T}^{\#1\alpha}_{1^-} == 0$	$\partial_\chi\partial_\beta\partial^\alpha\mathcal{T}^{\beta\chi} == \partial_\chi\partial^\chi\partial_\beta\mathcal{T}^{\alpha\beta}$	3
$\Delta^{\#6\alpha}_{1^-}+\Delta^{\#5\alpha}_{1^-} == 0$	$2\partial_\beta\partial^\alpha\Delta^{\beta\chi}{}_\chi+\partial_\chi\partial^\chi\Delta^{\beta\alpha}{}_\beta+\partial_\chi\partial^\chi\Delta^\beta{}_\beta{}^\alpha == \partial_\chi\partial^\alpha\Delta^\beta{}_\beta{}^\chi+\partial_\chi\partial^\alpha\Delta^{\beta\chi}{}_\beta+2\partial_\chi\partial^\chi\Delta^{\alpha\beta}{}_\beta$	3
$\Delta^{\#4\alpha}_{1^-}+\Delta^{\#3\alpha}_{1^-} == 0$	$\partial_\beta\partial^\alpha\Delta^{\beta\chi}{}_\chi+\partial_\chi\partial^\alpha\Delta^\beta{}_\beta{}^\chi+\partial_\chi\partial^\alpha\Delta^{\beta\chi}{}_\beta == \partial_\chi\partial^\chi\Delta^{\alpha\beta}{}_\beta+\partial_\chi\partial^\chi\Delta^{\beta\alpha}{}_\beta+\partial_\chi\partial^\chi\Delta^\beta{}_\beta{}^\alpha$	3
Total constraints/gauge generators:		12

	$\mathcal{A}^{\#1}_{1^+\alpha\beta}$	$\mathcal{A}^{\#2}_{1^+\alpha\beta}$	$\mathcal{A}^{\#3}_{1^+\alpha\beta}$	$\mathcal{A}^{\#1}_{1^-\alpha}$	$\mathcal{A}^{\#2}_{1^-\alpha}$	$\mathcal{A}^{\#3}_{1^-\alpha}$	$\mathcal{A}^{\#4}_{1^-\alpha}$	$\mathcal{A}^{\#5}_{1^-\alpha}$	$\mathcal{A}^{\#6}_{1^-\alpha}$	$h^{\#1}_{1^-\alpha}$
$\mathcal{A}^{\#1}_{1^+}{}^{\dagger\alpha\beta}$	$\frac{1}{4}(-a_0-6a_1+5a_2)$	$-\frac{a_0+2a_1-3a_2}{2\sqrt{2}}$	$\frac{1}{4}(-2a_1-a_2-a_9)$	0	0	0	0	0	0	0
$\mathcal{A}^{\#2}_{1^+}{}^{\dagger\alpha\beta}$	$-\frac{a_0+2a_1-3a_2}{2\sqrt{2}}$	$\frac{1}{2}(-2a_1+a_2)$	$\frac{2a_1+a_2+a_9}{2\sqrt{2}}$	0	0	0	0	0	0	0
$\mathcal{A}^{\#3}_{1^+}{}^{\dagger\alpha\beta}$	$\frac{1}{4}(-2a_1-a_2-a_9)$	$\frac{2a_1+a_2+a_9}{2\sqrt{2}}$	$\frac{3}{4}(a_0-4a_1-2a_2-3a_3+16a_6-4a_7-2a_9)$	0	0	0	0	0	0	0
$\mathcal{A}^{\#1}_{1^-}{}^{\dagger\alpha}$	0	0	0	$\frac{1}{4}(-a_0-2a_1-a_2-2a_3)$	$\frac{a_0+a_3}{2\sqrt{2}}$	0	0	$-\frac{2a_1+a_2+a_9}{2\sqrt{6}}$	$\frac{2a_1+a_2+a_9}{4\sqrt{3}}$	0
$\mathcal{A}^{\#2}_{1^-}{}^{\dagger\alpha}$	0	0	0	$\frac{a_0+a_3}{2\sqrt{2}}$	$\frac{1}{4}(-2a_1-a_2-a_3)$	0	0	$-\frac{2a_1+a_2+a_9}{2\sqrt{3}}$	$\frac{2a_1+a_2+a_9}{2\sqrt{6}}$	0
$\mathcal{A}^{\#3}_{1^-}{}^{\dagger\alpha}$	0	0	0	0	0	$-\frac{5}{2}(a_0+4a_6-4a_7)$	$\frac{1}{2}\sqrt{5}(a_0+4a_6-4a_7)$	0	0	0
$\mathcal{A}^{\#4}_{1^-}{}^{\dagger\alpha}$	0	0	0	0	0	$\frac{1}{2}\sqrt{5}(a_0+4a_6-4a_7)$	$-\frac{a_0}{2}-2a_6+2a_7$	0	0	0
$\mathcal{A}^{\#5}_{1^-}{}^{\dagger\alpha}$	0	0	0	$-\frac{2a_1+a_2+a_9}{2\sqrt{6}}$	$-\frac{2a_1+a_2+a_9}{2\sqrt{3}}$	0	0	$\frac{1}{2}(a_0-4a_1-2a_2-3a_3+16a_6-4a_7-2a_9)$	$\frac{-a_0+4a_1+2a_2+3a_3-16a_6+4a_7+2a_9}{2\sqrt{2}}$	0
$\mathcal{A}^{\#6}_{1^-}{}^{\dagger\alpha}$	0	0	0	$\frac{2a_1+a_2+a_9}{4\sqrt{3}}$	$\frac{2a_1+a_2+a_9}{2\sqrt{6}}$	0	0	$\frac{-a_0+4a_1+2a_2+3a_3-16a_6+4a_7+2a_9}{2\sqrt{2}}$	$\frac{1}{4}(a_0-4a_1-2a_2-3a_3+16a_6-4a_7-2a_9)$	0
$h^{\#1}_{1^-}{}^{\dagger\alpha}$	0	0	0	0	0	0	0	0	0	0

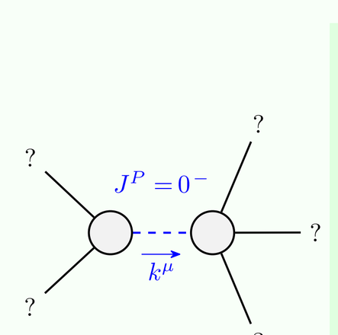
	$\mathcal{A}^{\#1}_{0^+}$	$\mathcal{A}^{\#2}_{0^+}$	$\mathcal{A}^{\#3}_{0^+}$	$\mathcal{A}^{\#4}_{0^+}$	$h^{\#1}_{0^+}$	$h^{\#2}_{0^+}$	$\mathcal{A}^{\#1}_{0^-}$
$\mathcal{A}^{\#1}_{0^+}{}^\dagger$	$\frac{1}{4}(-2a_0-2a_1-a_2-3a_3)$	0	0	0	0	0	0
$\mathcal{A}^{\#2}_{0^+}{}^\dagger$	0	$-\frac{3}{2}(a_0+4a_6-4a_7)$	$\frac{3}{2}(a_0+4a_6-4a_7)$	0	0	0	0
$\mathcal{A}^{\#3}_{0^+}{}^\dagger$	0	$\frac{3}{2}(a_0+4a_6-4a_7)$	$-\frac{3}{2}(a_0+4a_6-4a_7)$	0	0	0	0
$\mathcal{A}^{\#4}_{0^+}{}^\dagger$	0	0	0	0	0	0	0
$h^{\#1}_{0^+}{}^\dagger$	0	0	0	0	$\frac{a_0k^2}{4}$	0	0
$h^{\#2}_{0^+}{}^\dagger$	0	0	0	0	0	0	0
$\mathcal{A}^{\#1}_{0^-}{}^\dagger$	0	0	0	0	0	0	$-\frac{a_0}{2}-2a_1+2a_2-6a_1k^2$

	$\Delta^{\#1}_{0^+}$	$\Delta^{\#2}_{0^+}$	$\Delta^{\#3}_{0^+}$	$\Delta^{\#4}_{0^+}$	$\mathcal{T}^{\#1}_{0^+}$	$\mathcal{T}^{\#2}_{0^+}$	$\Delta^{\#1}_{0^-}$
$\Delta^{\#1}_{0^+}{}^\dagger$	$-\frac{4}{2a_0+2a_1+a_2+3a_3}$	0	0	0	0	0	0
$\Delta^{\#2}_{0^+}{}^\dagger$	0	$\frac{1}{-6(a_0+4a_6)+24a_7}$	$\frac{1}{6(a_0+4a_6-4a_7)}$	0	0	0	0
$\Delta^{\#3}_{0^+}{}^\dagger$	0	$\frac{1}{6a_0+24a_6-24a_7}$	$\frac{1}{-6(a_0+4a_6)+24a_7}$	0	0	0	0
$\Delta^{\#4}_{0^+}{}^\dagger$	0	0	0	0	0	0	0
$\mathcal{T}^{\#1}_{0^+}{}^\dagger$	0	0	0	0	$\frac{4}{a_0k^2}$	0	0
$\mathcal{T}^{\#2}_{0^+}{}^\dagger$	0	0	0	0	0	0	0
$\Delta^{\#1}_{0^-}{}^\dagger$	0	0	0	0	0	0	$-\frac{2}{a_0+4(a_1-a_2+3a_1k^2)}$

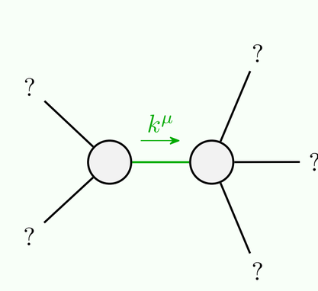
	$\mathcal{A}^{\#1}_{3^-\alpha\beta\chi}$
$\mathcal{A}^{\#1}_{3^-}{}^{\dagger\alpha\beta\chi}$	$-3(a_0+4a_6-4a_7)$

	$\Delta^{\#1}_{3^-\alpha\beta\chi}$
$\Delta^{\#1}_{3^-}{}^{\dagger\alpha\beta\chi}$	$\frac{1}{-3(a_0+4a_6)+12a_7}$

Massive and massless spectra



Massive particle	
Pole residue:	$\frac{1}{6a_1}>0$
Polarisations:	1
Square mass:	$-\frac{a_0+4a_1-4a_2}{12a_1}>0$
Spin:	0
Parity:	Odd



Quadratic pole	
Pole residue:	$-\frac{1}{a_0}>0$
Polarisations:	2

Unitarity conditions

$a_0<0$ && $a_2>\frac{1}{4}(a_0+4a_1)$ && $a_1>0$