Particle spectrograph

Wave operator and propagator

	$\Delta^{\#1}_{1^+\,\alpha\beta}$	$\Delta^{\#2}_{1^+\,\alpha\beta}$	$\Delta^{\#3}_{1^+\,\alpha\beta}$	$\Delta^{\#1}_{1^-\,\alpha}$	$\Delta^{\#2}_{1^-\,\alpha}$	$\Delta^{\#3}_{1^-\,\alpha}$	$\Delta^{\#4}_{1^-\,\alpha}$	$\Delta^{\#5}_{1^-\,\alpha}$	$\Delta^{\#6}_{1^-\,\alpha}$	$\mathcal{T}^{\#1}_{1^-\,\alpha}$
$\Delta^{\#1}_{1^+}\dagger^{\alpha\beta}$	0	$-\frac{2\sqrt{2}}{a_0}$	0	0	0	0	0	0	0	0
$\Delta^{\#2}_{1^+}\dagger^{\alpha\beta}$	$-\frac{2\sqrt{2}}{a_0}$	$\frac{2(a_0^2-14a_0a_1k^2-35a_1^2k^4)}{a_0^2(a_0-29a_1k^2)}$	$\frac{40\sqrt{2}a_1k^2}{a_0^2-29a_0a_1k^2}$	0	0	0	0	0	0	0
$\Delta^{\#3}_{1^+}\dagger^{\alpha\beta}$	0	$-\frac{40\sqrt{2}a_1k^2}{a_0^2-29a_0a_1k^2}$	$\frac{4}{a_0-29a_1k^2}$	0	0	0	0	0	0	0
$\Delta^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	0	$\frac{\sqrt{2}(4+k^2)}{a_0(2+k^2)}$	$-\frac{2k^2}{\sqrt{3}a_0(2+k^2)}$	0	$\frac{\sqrt{\frac{2}{3}}k^2}{a_0(2+k^2)}$	0	$-\frac{2ik\sqrt{2}}{a_0(2+k^2)}$
$\Delta^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{\sqrt{2}(4+k^2)}{a_0(2+k^2)}$	$\frac{a_0^2(4+k^2)^2-30a_0a_1k^2(4+k^2)+3a_1^2k^4(6416+7928k^2+1901k^4)}{2a_0^2(2+k^2)^2(a_0-33a_1k^2)}$	$\frac{k^2(a_0^2(-2+k^2)+a_0a_1(560+302k^2+71k^4)-2a_1^2k^2(9440+1901k^2(4+k^2)))}{2\sqrt{6}a_0^2(2+k^2)^2(a_0-33a_1k^2)}$	$-\frac{\sqrt{\frac{5}{6}}k^2(a_0+a_1(40-31k^2))}{2a_0(2+k^2)(a_0-33a_1k^2)}$	$\frac{k^2(2a_0^2(5+2k^2)-a_0a_1(880+778k^2+199k^4)+a_1^2k^2(9440+1901k^2(4+k^2)))}{2\sqrt{3}a_0^2(2+k^2)^2(a_0-33a_1k^2)}$	$\frac{k^2(-a_0+a_1(200+43k^2))}{\sqrt{6}a_0(2+k^2)(a_0-33a_1k^2)}$	$-\frac{ik(-30a_0a_1k^4+a_0^2(4+k^2)+27a_1^2k^4(-28+3k^2))}{a_0^2(2+k^2)^2(a_0-33a_1k^2)}$
$\Delta^{\#3}_{1^-}\dagger^{\alpha}$	0	0	0	$-\frac{2k^2}{\sqrt{3}(2a_0+a_0k^2)}$	$\frac{k^2(a_0^2(-2+k^2)+a_0a_1(560+302k^2+71k^4)-2a_1^2k^2(9440+1901k^2(4+k^2)))}{2\sqrt{6}a_0^2(2+k^2)^2(a_0-33a_1k^2)}$	$\frac{-a_0^2(76+52k^2+3k^4)+4a_0a_1k^2(472+214k^2+19k^4)+4a_1^2k^4(5120+7280k^2+1901k^4)}{12a_0^2(2+k^2)^2(a_0-33a_1k^2)}$	$\frac{\sqrt{5}(10a_0+(3a_0-328a_1)k^2-62a_1k^4)}{12a_0(2+k^2)(a_0-33a_1k^2)}$	$\frac{2a_0^2(-2+k^2)+a_0a_1k^2(472+934k^2+289k^4)-2a_1^2k^4(5120+7280k^2+1901k^4)}{6\sqrt{2}a_0^2(2+k^2)^2(a_0-33a_1k^2)}$	$-\frac{2a_0+(3a_0-56a_1)k^2+86a_1k^4}{6a_0(2+k^2)(a_0-33a_1k^2)}$	$\frac{ik(54a_1^2k^4(40+3k^2)+a_0^2(6+5k^2)-3a_0a_1k^2(86+23k^2))}{\sqrt{6}a_0^2(2+k^2)^2(a_0-33a_1k^2)}$
$\Delta^{\#4}_{1^-}\dagger^{\alpha}$	0	0	0	0	$-\frac{\sqrt{\frac{5}{6}}k^2(a_0+a_1(40-31k^2))}{2a_0(2+k^2)(a_0-33a_1k^2)}$	$\frac{\sqrt{5}(10a_0+k^2(3a_0-2a_1(164+31k^2)))}{12a_0(2+k^2)(a_0-33a_1k^2)}$	$\frac{1}{12a_0-396a_1k^2}$	$\frac{\sqrt{\frac{5}{2}}(-2a_0+a_1k^2(164+31k^2))}{6a_0(2+k^2)(a_0-33a_1k^2)}$	$-\frac{\sqrt{5}}{6(a_0-33a_1k^2)}$	$-\frac{i\sqrt{\frac{5}{6}}k(a_0-51a_1k^2)}{a_0(2+k^2)(a_0-33a_1k^2)}$
$\Delta^{\#5}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{\sqrt{\frac{2}{3}}k^2}{2a_0+a_0k^2}$	$\frac{k^2(2a_0^2(5+2k^2)-a_0a_1(880+778k^2+199k^4)+a_1^2k^2(9440+1901k^2(4+k^2)))}{2\sqrt{3}a_0^2(2+k^2)^2(a_0-33a_1k^2)}$	$\frac{2a_0^2(-2+k^2)+a_0a_1k^2(472+934k^2+289k^4)-2a_1^2k^4(5120+7280k^2+1901k^4)}{6\sqrt{2}a_0^2(2+k^2)^2(a_0-33a_1k^2)}$	$\frac{\sqrt{\frac{5}{2}}(-2a_0+a_1k^2(164+31k^2))}{6a_0(2+k^2)(a_0-33a_1k^2)}$	$\frac{4a_0^2(17+14k^2+3k^4)-4a_0a_1k^2(236+287k^2+77k^4)+a_1^2k^4(5120+7280k^2+1901k^4)}{6a_0^2(2+k^2)^2(a_0-33a_1k^2)}$	$-\frac{a_1k^2(28-43k^2)+2a_0(7+3k^2)}{3\sqrt{2}a_0(2+k^2)(a_0-33a_1k^2)}$	$\frac{ik(2a_0^2(3+k^2)-27a_1^2k^4(40+3k^2)+3a_0a_1k^2(34+7k^2))}{\sqrt{3}a_0^2(2+k^2)^2(a_0-33a_1k^2)}$
$\Delta^{\#6}_{1^-}\dagger^{\alpha}$	0	0	0	0	$\frac{k^2(-a_0+a_1(200+43k^2))}{\sqrt{6}a_0(2+k^2)(a_0-33a_1k^2)}$	$-\frac{2a_0+(3a_0-56a_1)k^2+86a_1k^4}{6a_0(2+k^2)(a_0-33a_1k^2)}$	$-\frac{\sqrt{5}}{6(a_0-33a_1k^2)}$	$-\frac{a_1k^2(28-43k^2)+2a_0(7+3k^2)}{3\sqrt{2}a_0(2+k^2)(a_0-33a_1k^2)}$	$\frac{5}{3(a_0-33a_1k^2)}$	$-\frac{i\sqrt{\frac{2}{3}}k(a_0+57a_1k^2)}{a_0(2+k^2)(a_0-33a_1k^2)}$
$\mathcal{T}^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{2i\sqrt{2}k}{2a_0+a_0k^2}$	$\frac{i(-30a_0a_1k^5+a_0^2k(4+k^2)+27a_1^2k^5(-28+3k^2))}{a_0^2(2+k^2)^2(a_0-33a_1k^2)}$	$-\frac{i(54a_1^2k^5(40+3k^2)+a_0^2k(6+5k^2)-3a_0a_1k^3(86+23k^2))}{\sqrt{6}a_0^2(2+k^2)^2(a_0-33a_1k^2)}$	$\frac{i\sqrt{5}k(a_0-51a_1k^2)}{a_0(2+k^2)(a_0-33a_1k^2)}$	$-\frac{i(2a_0^2k(3+k^2)-27a_1^2k^5(40+3k^2)+3a_0a_1k^3(34+7k^2))}{\sqrt{3}a_0^2(2+k^2)^2(a_0-33a_1k^2)}$	$\frac{i\sqrt{\frac{2}{3}}k(a_0+57a_1k^2)}{a_0(2+k^2)(a_0-33a_1k^2)}$	$\frac{2k^2(a_0^2+30a_0a_1k^2-459a_1^2k^4)}{a_0^2(2+k^2)^2(a_0-33a_1k^2)}$

Quadratic (free) action

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\begin{aligned}
S == \iiint\!\!\int (&\tfrac{1}{4}(2\,a_0\,\Gamma^{\alpha}{}_{\alpha}{}^{\beta}\,\Gamma^{\chi}{}_{\beta\chi} + 4\,h^{\alpha\beta}\,\mathcal{T}_{\alpha\beta} + \Gamma^{\alpha\beta\chi}(-2\,a_0\,\Gamma_{\beta\chi\alpha} + 4\,\Delta_{\alpha\beta\chi}) - \\
&a_0\,h^{\chi}{}_{\chi}\,\partial_\beta\Gamma^{\alpha}{}_{\alpha}{}^{\beta} + a_0\,h^{\chi}{}_{\chi}\,\partial_\beta\Gamma^{\alpha\beta}{}_{\alpha} - 2\,a_0\,h_{\alpha\chi}\,\partial_\beta\Gamma^{\alpha\beta\chi} + \\
&22\,a_1\,\partial^\alpha\Gamma^{\chi\delta}{}_{\delta}\partial_\beta\Gamma_{\chi\alpha}{}^{\beta} + 2\,a_1\,\partial^\alpha\Gamma_{\chi\alpha}{}^{\beta}\partial_\beta\Gamma^{\chi\delta}{}_{\delta} - \\
&76\,a_1\,\partial^\alpha\Gamma^{\chi\delta}{}_{\chi}\partial_\beta\Gamma_{\delta\alpha}{}^{\beta} + 2\,a_0\,h_{\beta\chi}\,\partial^\chi\Gamma^{\alpha}{}_{\alpha}{}^{\beta} - \\
&2\,a_1\,\partial_\beta\Gamma_{\chi}{}^{\delta}{}_{\delta}\partial^\chi\Gamma^{\alpha}{}_{\alpha}{}^{\beta} - 2\,a_1\,\partial_\beta\Gamma^{\delta}{}_{\delta\chi}\,\partial^\chi\Gamma^{\alpha}{}_{\alpha}{}^{\beta} + \\
&2\,a_1\,\partial_\chi\Gamma_{\beta}{}^{\delta}{}_{\delta}\partial^\chi\Gamma^{\alpha}{}_{\alpha}{}^{\beta} - 2\,a_1\,\partial_\chi\Gamma^{\delta}{}_{\beta\delta}\,\partial^\chi\Gamma^{\alpha}{}_{\alpha}{}^{\beta} - \\
&2\,a_1\,\partial_\chi\Gamma^{\delta}{}_{\delta\beta}\,\partial^\chi\Gamma^{\alpha}{}_{\alpha}{}^{\beta} - 22\,a_1\,\partial_\beta\Gamma_{\chi}{}^{\delta}{}_{\delta}\partial^\chi\Gamma^{\alpha\beta}{}_{\alpha} + \\
&38\,a_1\,\partial_\beta\Gamma^{\delta}{}_{\chi\delta}\partial^\chi\Gamma^{\alpha\beta}{}_{\alpha} + 22\,a_1\,\partial_\chi\Gamma_{\beta}{}^{\delta}{}_{\delta}\partial^\chi\Gamma^{\alpha\beta}{}_{\alpha} - \\
&2\,a_1\,\partial_\chi\Gamma^{\delta}{}_{\beta\delta}\partial^\chi\Gamma^{\alpha\beta}{}_{\alpha} + 4\,a_1\,\partial_\alpha\Gamma_{\chi}{}^{\delta}{}_{\delta}\partial^\chi\Gamma^{\alpha\beta}{}_{\beta} - \\
&4\,a_1\,\partial_\chi\Gamma_{\alpha}{}^{\delta}{}_{\delta}\partial^\chi\Gamma^{\alpha\beta}{}_{\beta} - 2\,a_1\,\partial_\chi\Gamma^{\alpha\beta\chi}\partial_\delta\Gamma_{\alpha\beta}{}^{\delta} - \\
&2\,a_1\,\partial_\beta\Gamma^{\alpha\beta\chi}\partial_\delta\Gamma_{\alpha\chi}{}^{\delta} - 2\,a_1\,\partial_\beta\Gamma^{\alpha\beta\chi}\partial_\delta\Gamma_{\alpha}{}^{\delta}{}_{\chi} + \\
&38\,a_1\,\partial_\chi\Gamma^{\alpha\beta\chi}\partial_\delta\Gamma_{\beta\alpha}{}^{\delta} + 4\,a_1\,\partial^\chi\Gamma^{\alpha}{}_{\alpha}{}^{\beta}\partial_\delta\Gamma_{\beta}{}^{\delta}{}_{\chi} - \\
&22\,a_1\,\partial^\chi\Gamma^{\alpha\beta}{}_{\beta}\partial_\delta\Gamma_{\chi\alpha}{}^{\delta} + 2\,a_1\,\partial^\chi\Gamma^{\alpha\beta}{}_{\alpha}\partial_\delta\Gamma_{\chi\beta}{}^{\delta} - \\
&2\,a_1\,\partial_\beta\Gamma^{\alpha\beta\chi}\partial_\delta\Gamma_{\chi}{}^{\delta}{}_{\alpha} - 2\,a_1\,\partial^\chi\Gamma^{\alpha\beta}{}_{\beta}\partial_\delta\Gamma_{\chi}{}^{\delta}{}_{\alpha} + \\
&2\,a_1\,\partial_\beta\Gamma^{\alpha}{}_{\alpha}{}^{\beta}\partial_\delta\Gamma^{\chi}{}_{\chi}{}^{\delta} + 4\,a_1\,\partial_\beta\Gamma^{\alpha}{}_{\alpha}{}^{\beta}\partial_\delta\Gamma^{\chi\delta}{}_{\chi} - \\
&2\,a_1\,\partial_\beta\Gamma^{\alpha\beta}{}_{\alpha}\partial_\delta\Gamma^{\chi\delta}{}_{\chi} + 2\,a_1\,\partial_\alpha\Gamma_{\beta\chi\delta}\partial^\delta\Gamma^{\alpha\beta\chi} + \\
&4\,a_1\,\partial_\alpha\Gamma_{\beta\delta\chi}\partial^\delta\Gamma^{\alpha\beta\chi} + 4\,a_1\,\partial_\alpha\Gamma_{\chi\beta\delta}\partial^\delta\Gamma^{\alpha\beta\chi} + \\
&2\,a_1\,\partial_\alpha\Gamma_{\chi\delta\beta}\partial^\delta\Gamma^{\alpha\beta\chi} + 4\,a_1\,\partial_\alpha\Gamma_{\delta\beta\chi}\partial^\delta\Gamma^{\alpha\beta\chi} + \\
&4\,a_1\,\partial_\alpha\Gamma_{\delta\chi\beta}\partial^\delta\Gamma^{\alpha\beta\chi} - 2\,a_1\,\partial_\beta\Gamma_{\alpha\chi\delta}\partial^\delta\Gamma^{\alpha\beta\chi} - \\
&2\,a_1\,\partial_\beta\Gamma_{\alpha\delta\chi}\partial^\delta\Gamma^{\alpha\beta\chi} - 2\,a_1\,\partial_\beta\Gamma_{\chi\delta\alpha}\partial^\delta\Gamma^{\alpha\beta\chi} - \\
&2\,a_1\,\partial_\chi\Gamma_{\alpha\beta\delta}\partial^\delta\Gamma^{\alpha\beta\chi} - 2\,a_1\,\partial_\chi\Gamma_{\beta\alpha\delta}\partial^\delta\Gamma^{\alpha\beta\chi} + \\
&4\,a_1\,\partial_\chi\Gamma_{\beta\delta\alpha}\partial^\delta\Gamma^{\alpha\beta\chi} - 4\,a_1\,\partial_\delta\Gamma_{\alpha\beta\chi}\partial^\delta\Gamma^{\alpha\beta\chi} - 4\,a_1\,\partial_\delta\Gamma_{\alpha\chi\beta} \\
&\partial^\delta\Gamma^{\alpha\beta\chi} - 2\,a_1\,\partial_\delta\Gamma_{\beta\alpha\chi}\partial^\delta\Gamma^{\alpha\beta\chi} - 2\,a_1\,\partial_\delta\Gamma_{\beta\chi\alpha}\partial^\delta\Gamma^{\alpha\beta\chi} - \\
&2\,a_1\,\partial_\delta\Gamma_{\chi\beta\alpha}\partial^\delta\Gamma^{\alpha\beta\chi} + 2\,a_1\,\partial_\beta\Gamma_{\delta\alpha}{}^{\beta}\partial^\delta\Gamma^{\chi\alpha}{}_{\chi} + \\
&2\,a_1\,\partial_\beta\Gamma_{\delta\alpha}{}^{\beta}\partial^\delta\Gamma^{\chi}{}_{\chi}{}^{\alpha}))[t,\,x,\,y,\,z]\,dt\,dz\,dy\,dx\,dt
\end{aligned}
$$

	$\Gamma^{\#1}_{1^+\,\alpha\beta}$	$\Gamma^{\#2}_{1^+\,\alpha\beta}$	$\Gamma^{\#3}_{1^+\,\alpha\beta}$	$\Gamma^{\#1}_{1^-\,\alpha}$	$\Gamma^{\#2}_{1^-\,\alpha}$	$\Gamma^{\#3}_{1^-\,\alpha}$	$\Gamma^{\#4}_{1^-\,\alpha}$	$\Gamma^{\#5}_{1^-\,\alpha}$	$\Gamma^{\#6}_{1^-\,\alpha}$	$h^{\#1}_{1^-\,\alpha}$
$\Gamma^{\#1}_{1^+}\dagger^{\alpha\beta}$	$\frac{1}{4}(-a_0-15a_1k^2)$	$-\frac{a_0}{2\sqrt{2}}$	$5a_1k^2$	0	0	0	0	0	0	0
$\Gamma^{\#2}_{1^+}\dagger^{\alpha\beta}$	$-\frac{a_0}{2\sqrt{2}}$	0	0	0	0	0	0	0	0	0
$\Gamma^{\#3}_{1^+}\dagger^{\alpha\beta}$	$5a_1k^2$	0	$\frac{1}{4}(a_0-29a_1k^2)$	0	0	0	0	0	0	0
$\Gamma^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{1}{4}(-a_0-3a_1k^2)$	$\frac{a_0}{2\sqrt{2}}$	$\frac{5}{2}\sqrt{3}\,a_1k^2$	$-\frac{5}{2}\sqrt{\frac{5}{3}}\,a_1k^2$	$5\sqrt{\frac{3}{2}}\,a_1k^2$	$-\frac{5a_1k^2}{\sqrt{3}}$	$-\frac{ia_0k}{4\sqrt{2}}$
$\Gamma^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{a_0}{2\sqrt{2}}$	0	0	0	0	0	0
$\Gamma^{\#3}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{5}{2}\sqrt{3}\,a_1k^2$	0	$-\frac{a_0}{3}$	$\frac{1}{6}\sqrt{5}\,(a_0-8a_1k^2)$	$-\frac{a_0}{6\sqrt{2}}$	$\frac{1}{6}(-a_0+20a_1k^2)$	$\frac{ia_0k}{4\sqrt{6}}$
$\Gamma^{\#4}_{1^-}\dagger^{\alpha}$	0	0	0	$-\frac{5}{2}\sqrt{\frac{5}{3}}\,a_1k^2$	0	$\frac{1}{6}\sqrt{5}\,(a_0-8a_1k^2)$	$\frac{1}{3}(a_0+7a_1k^2)$	$-\frac{1}{6}\sqrt{5}\,(a_0+16a_1k^2)$	$-\frac{1}{6}\sqrt{5}\,(a_0-5a_1k^2)$	$-\frac{1}{4}i\sqrt{\frac{5}{6}}\,a_0k$
$\Gamma^{\#5}_{1^-}\dagger^{\alpha}$	0	0	0	$5\sqrt{\frac{3}{2}}\,a_1k^2$	0	$-\frac{a_0}{6\sqrt{2}}$	$-\frac{1}{6}\sqrt{\frac{5}{2}}\,(a_0+16a_1k^2)$	$\frac{a_0}{3}$	$\frac{a_0+40a_1k^2}{6\sqrt{2}}$	$\frac{ia_0k}{4\sqrt{3}}$
$\Gamma^{\#6}_{1^-}\dagger^{\alpha}$	0	0	0	$-\frac{5a_1k^2}{\sqrt{3}}$	0	$\frac{1}{6}(-a_0+20a_1k^2)$	$-\frac{1}{6}\sqrt{5}\,(a_0-5a_1k^2)$	$\frac{a_0+40a_1k^2}{6\sqrt{2}}$	$\frac{5}{12}(a_0-17a_1k^2)$	$\frac{ia_0k}{4\sqrt{6}}$
$h^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{ia_0k}{4\sqrt{2}}$	0	$-\frac{ia_0k}{4\sqrt{6}}$	$\frac{1}{4}i\sqrt{5}\,a_0k$	$-\frac{ia_0k}{4\sqrt{3}}$	$-\frac{ia_0k}{4\sqrt{6}}$	0

	$\Delta^{\#1}_{0^+}$	$\Delta^{\#2}_{0^+}$	$\Delta^{\#3}_{0^+}$	$\Delta^{\#4}_{0^+}$	$\mathcal{T}^{\#1}_{0^+}$	$\mathcal{T}^{\#2}_{0^+}$	$\Delta^{\#1}_{0^-}$
$\Delta^{\#1}_{0^+}\dagger$	0	$\frac{4\sqrt{6}}{16a_0+3a_0k^2}$	$-\frac{4\sqrt{\frac{2}{3}}}{16a_0+3a_0k^2}$	$-\frac{8}{\sqrt{3}(16a_0+3a_0k^2)}$	$-\frac{2i\sqrt{2}}{a_0k}$	$-\frac{2i\sqrt{6}k}{16a_0+3a_0k^2}$	0
$\Delta^{\#2}_{0^+}\dagger$	$\frac{4\sqrt{6}}{16a_0+3a_0k^2}$	$-\frac{48(3a_0+197a_1k^2)}{a_0^2(16+3k^2)^2}$	$\frac{16(19a_0+(3a_0+197a_1)k^2)}{a_0^2(16+3k^2)^2}$	$-\frac{8\sqrt{2}(10a_0+(3a_0-394a_1)k^2)}{a_0^2(16+3k^2)^2}$	$-\frac{8i\sqrt{3}(a_0-65a_1k^2)}{a_0^2k(16+3k^2)}$	$\frac{24ik(3a_0+197a_1k^2)}{a_0^2(16+3k^2)^2}$	0
$\Delta^{\#3}_{0^+}\dagger$	$-\frac{4\sqrt{\frac{2}{3}}}{16a_0+3a_0k^2}$	$\frac{16(19a_0+(3a_0+197a_1)k^2)}{a_0^2(16+3k^2)^2}$	$-\frac{16(35a_0+(6a_0+197a_1)k^2)}{3a_0^2(16+3k^2)^2}$	$-\frac{8\sqrt{2}(22a_0+(3a_0+394a_1)k^2)}{3a_0^2(16+3k^2)^2}$	$\frac{8ik(a_0-65a_1k^2)}{\sqrt{3}a_0^2k(16+3k^2)}$	$-\frac{8ik(19a_0+(3a_0+197a_1)k^2)}{a_0^2(16+3k^2)^2}$	0
$\Delta^{\#4}_{0^+}\dagger$	$-\frac{8}{\sqrt{3}(16a_0+3a_0k^2)}$	$-\frac{8\sqrt{2}(10a_0+(3a_0-394a_1)k^2)}{a_0^2(16+3k^2)^2}$	$-\frac{8\sqrt{2}(22a_0+(3a_0+394a_1)k^2)}{3a_0^2(16+3k^2)^2}$	$\frac{32(13a_0+(3a_0-197a_1)k^2)}{3a_0^2(16+3k^2)^2}$	$\frac{8i\sqrt{\frac{2}{3}}(a_0-65a_1k^2)}{a_0^2k(16+3k^2)}$	$\frac{4i\sqrt{2}k(10a_0+(3a_0-394a_1)k^2)}{a_0^2(16+3k^2)^2}$	0
$\mathcal{T}^{\#1}_{0^+}\dagger$	$\frac{2i\sqrt{2}}{a_0k}$	$\frac{8i\sqrt{3}(a_0-65a_1k^2)}{a_0^2k(16+3k^2)}$	$-\frac{8i(a_0-65a_1k^2)}{\sqrt{3}a_0^2k(16+3k^2)}$	$-\frac{8i\sqrt{\frac{2}{3}}(a_0-65a_1k^2)}{a_0^2k(16+3k^2)}$	$\frac{4(a_0-25a_1k^2)}{a_0^2k^2}$	$\frac{4\sqrt{3}(a_0-65a_1k^2)}{a_0^2(16+3k^2)}$	0
$\mathcal{T}^{\#2}_{0^+}\dagger$	$\frac{2i\sqrt{6}k}{16a_0+3a_0k^2}$	$-\frac{24ik(3a_0+197a_1k^2)}{a_0^2(16+3k^2)^2}$	$\frac{8ik(19a_0+(3a_0+197a_1)k^2)}{a_0^2(16+3k^2)^2}$	$-\frac{4i\sqrt{2}k(10a_0+(3a_0-394a_1)k^2)}{a_0^2(16+3k^2)^2}$	$\frac{4\sqrt{3}(a_0-65a_1k^2)}{a_0^2(16+3k^2)}$	$-\frac{12k^2(3a_0+197a_1k^2)}{a_0^2(16+3k^2)^2}$	0
$\Delta^{\#1}_{0^-}\dagger$	0	0	0	0	0	0	$-\frac{2}{a_0-a_1k^2}$

	$\Gamma^{\#1}_{3^-\,\alpha\beta\chi}$
$\Gamma^{\#1}_{3^-}\dagger^{\alpha\beta\chi}$	$\frac{1}{2}(-a_0-7a_1k^2)$

	$\Delta^{\#1}_{2^+\,\alpha\beta}$	$\Delta^{\#2}_{2^+\,\alpha\beta}$	$\Delta^{\#3}_{2^+\,\alpha\beta}$	$\mathcal{T}^{\#1}_{2^+\,\alpha\beta}$	$\Delta^{\#1}_{2^-\,\alpha\beta\chi}$	$\Delta^{\#2}_{2^-\,\alpha\beta\chi}$
$\Delta^{\#1}_{2^+}\dagger^{\alpha\beta}$	0	$\frac{2\sqrt{\frac{2}{3}}}{a_0}$	$\frac{4}{\sqrt{3}\,a_0}$	$\frac{4i\sqrt{2}}{a_0k}$	0	0
$\Delta^{\#2}_{2^+}\dagger^{\alpha\beta}$	$\frac{2\sqrt{\frac{2}{3}}}{a_0}$	$-\frac{8(a_0+13a_1k^2)}{3a_0^2}$	$-\frac{2\sqrt{2}(a_0+52a_1k^2)}{3a_0^2}$	$-\frac{4i(a_0+31a_1k^2)}{\sqrt{3}a_0^2k}$	0	0
$\Delta^{\#3}_{2^+}\dagger^{\alpha\beta}$	$\frac{4}{\sqrt{3}\,a_0}$	$-\frac{2\sqrt{2}(a_0+52a_1k^2)}{3a_0^2}$	$\frac{8(a_0-26a_1k^2)}{3a_0^2}$	$-\frac{4i\sqrt{\frac{2}{3}}(a_0+31a_1k^2)}{a_0^2k}$	0	0
$\mathcal{T}^{\#1}_{2^+}\dagger^{\alpha\beta}$	$-\frac{4i\sqrt{2}}{a_0k}$	$\frac{4i(a_0+31a_1k^2)}{\sqrt{3}a_0^2k}$	$\frac{4i\sqrt{\frac{2}{3}}(a_0+31a_1k^2)}{a_0^2k}$	$-\frac{8(a_0+11a_1k^2)}{a_0^2k^2}$	0	0
$\Delta^{\#1}_{2^-}\dagger^{\alpha\beta\chi}$	0	0	0	0	$\frac{4}{a_0-a_1k^2}$	0
$\Delta^{\#2}_{2^-}\dagger^{\alpha\beta\chi}$	0	0	0	0	0	$\frac{4}{a_0-5a_1k^2}$

	$\Gamma^{\#1}_{0^+}$	$\Gamma^{\#2}_{0^+}$	$\Gamma^{\#3}_{0^+}$	$\Gamma^{\#4}_{0^+}$	$h^{\#1}_{0^+}$	$h^{\#2}_{0^+}$	$\Gamma^{\#1}_{0^-}$
$\Gamma^{\#1}_{0^+}\dagger$	$\frac{1}{2}(-a_0+25a_1k^2)$	0	$10\sqrt{\frac{2}{3}}\,a_1k^2$	$-\frac{10a_1k^2}{\sqrt{3}}$	$-\frac{ia_0k}{2\sqrt{2}}$	0	0
$\Gamma^{\#2}_{0^+}\dagger$	0	0	$\frac{a_0}{2}$	$-\frac{a_0}{2\sqrt{2}}$	0	0	0
$\Gamma^{\#3}_{0^+}\dagger$	$10\sqrt{\frac{2}{3}}\,a_1k^2$	$\frac{a_0}{2}$	$\frac{23a_1k^2}{3}$	$-\frac{3a_0+46a_1k^2}{6\sqrt{2}}$	$\frac{ia_0k}{4\sqrt{3}}$	$-\frac{1}{4}ia_0k$	0
$\Gamma^{\#4}_{0^+}\dagger$	$-\frac{10a_1k^2}{\sqrt{3}}$	$-\frac{a_0}{2\sqrt{2}}$	$-\frac{3a_0+46a_1k^2}{6\sqrt{2}}$	$\frac{1}{6}(3a_0+23a_1k^2)$	$-\frac{ia_0k}{4\sqrt{6}}$	$\frac{ia_0k}{4\sqrt{2}}$	0
$h^{\#1}_{0^+}\dagger$	$\frac{ia_0k}{2\sqrt{2}}$	0	$-\frac{ia_0k}{4\sqrt{3}}$	$\frac{ia_0k}{4\sqrt{6}}$	0	0	0
$h^{\#2}_{0^+}\dagger$	0	0	$\frac{ia_0k}{4}$	$-\frac{ia_0k}{4\sqrt{2}}$	0	0	0
$\Gamma^{\#1}_{0^-}\dagger$	0	0	0	0	0	0	$\frac{1}{2}(-a_0+a_1k^2)$

	$\Delta^{\#1}_{3^-\,\alpha\beta\chi}$
$\Delta^{\#1}_{3^-}\dagger^{\alpha\beta\chi}$	$-\frac{2}{a_0-7a_1k^2}$

	$\Gamma^{\#1}_{2^+\,\alpha\beta}$	$\Gamma^{\#2}_{2^+\,\alpha\beta}$	$\Gamma^{\#3}_{2^+\,\alpha\beta}$	$h^{\#1}_{2^+\,\alpha\beta}$	$\Gamma^{\#1}_{2^-\,\alpha\beta\chi}$	$\Gamma^{\#2}_{2^-\,\alpha\beta\chi}$
$\Gamma^{\#1}_{2^+}\dagger^{\alpha\beta}$	$\frac{1}{4}(a_0+11a_1k^2)$	$-5\sqrt{\frac{2}{3}}\,a_1k^2$	$\frac{5a_1k^2}{\sqrt{3}}$	$\frac{ia_0k}{4\sqrt{2}}$	0	0
$\Gamma^{\#2}_{2^+}\dagger^{\alpha\beta}$	$-5\sqrt{\frac{2}{3}}\,a_1k^2$	$\frac{1}{6}(-3a_0+a_1k^2)$	$-\frac{a_1k^2}{6\sqrt{2}}$	$\frac{ia_0k}{4\sqrt{3}}$	0	0
$\Gamma^{\#3}_{2^+}\dagger^{\alpha\beta}$	$\frac{5a_1k^2}{\sqrt{3}}$	$-\frac{a_1k^2}{6\sqrt{2}}$	$\frac{1}{12}(3a_0+a_1k^2)$	$-\frac{ia_0k}{4\sqrt{6}}$	0	0
$h^{\#1}_{2^+}\dagger^{\alpha\beta}$	$-\frac{ia_0k}{4\sqrt{2}}$	$-\frac{ia_0k}{4\sqrt{3}}$	$\frac{ia_0k}{4\sqrt{6}}$	0	0	0
$\Gamma^{\#1}_{2^-}\dagger^{\alpha\beta\chi}$	0	0	0	0	$\frac{1}{4}(a_0-a_1k^2)$	0
$\Gamma^{\#2}_{2^-}\dagger^{\alpha\beta\chi}$	0	0	0	0	0	$\frac{1}{4}(a_0-5a_1k^2)$

Source constraints

SO(3) irreps	Fundamental fields	Multiplicities
$2\,\mathcal{T}^{\#2}_{0^+} - i\,k\,\Delta^{\#2}_{0^+} == 0$	$2\,\partial_\beta\partial_\alpha\mathcal{T}^{\alpha\beta} == \partial_\chi\partial_\beta\partial_\alpha\Delta^{\alpha\beta\chi}$	1
$\Delta^{\#3}_{0^+} + 2\,\Delta^{\#4}_{0^+} + 3\,\Delta^{\#2}_{0^+} == 0$	$\partial_\alpha\Delta^{\alpha\beta}{}_{\beta} == 0$	1
$6\,\mathcal{T}^{\#1\alpha}_{1^-} - i\,k\,(3\,\Delta^{\#2\alpha}_{1^-} - \Delta^{\#5\alpha}_{1^-} + \Delta^{\#3\alpha}_{1^-}) == 0$	$2\,\partial_\chi\partial_\beta\partial^\alpha\mathcal{T}^{\beta\chi} + \partial_\delta\partial^\delta\partial_\chi\partial_\beta\Delta^{\beta\alpha\chi} == 2\,\partial_\chi\partial^\chi\partial_\beta\mathcal{T}^{\alpha\beta} + \partial_\delta\partial_\chi\partial_\beta\partial^\alpha\Delta^{\beta\chi\delta}$	3
$2\,\Delta^{\#6\alpha}_{1^-} + \Delta^{\#4\alpha}_{1^-} + 2\,\Delta^{\#5\alpha}_{1^-} + \Delta^{\#3\alpha}_{1^-} == 0$	$\partial_\beta\partial^\alpha\Delta^{\beta\chi}{}_{\chi} == \partial_\chi\partial^\chi\Delta^{\alpha\beta}{}_{\beta}$	3
Total constraints/gauge generators:		8

Massive and massless spectra

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** MassiveAnalysisOfSector... Null
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Unitarity conditions