

Particle spectrograph

Wave operator and propagator

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

Quadratic (free) action

$$S = \iiint (\frac{1}{4} (2 a_0 \Gamma_{\alpha}^{\alpha \beta} \Gamma_{\beta \chi}^{\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_{\chi}^{\alpha \beta} - 2 a_0 h_{\alpha \chi} \partial_{\beta} \Gamma^{\alpha \beta \chi} + 22 a_1 \partial^{\alpha} \Gamma_{\delta}^{\chi \delta} \partial_{\delta} \Gamma_{\chi \alpha}^{\alpha \beta} + 2 a_1 \partial^{\alpha} \Gamma_{\chi \alpha}^{\alpha \beta} \partial_{\beta} \Gamma^{\chi \delta} \delta - 76 a_1 \partial^{\alpha} \Gamma_{\chi}^{\chi \delta} \partial_{\delta} \Gamma_{\delta \alpha}^{\alpha \beta} + 2 a_0 h_{\beta \chi} \partial^{\chi} \Gamma_{\alpha}^{\alpha \beta} - 2 a_1 \partial_{\beta} \Gamma_{\chi}^{\delta} \partial^{\chi} \Gamma_{\alpha}^{\alpha \beta} - 2 a_1 \partial_{\beta} \Gamma_{\chi}^{\delta} \partial_{\alpha} \Gamma_{\chi}^{\alpha \beta} \delta + 2 a_1 \partial_{\chi} \Gamma_{\beta}^{\delta} \partial^{\chi} \Gamma_{\alpha}^{\alpha \beta} - 2 a_1 \partial_{\chi} \Gamma_{\beta \delta}^{\delta} \partial^{\alpha} \Gamma_{\alpha}^{\alpha \beta} - 2 a_1 \partial_{\chi} \Gamma_{\delta \beta}^{\delta} \partial^{\alpha} \Gamma_{\alpha}^{\alpha \beta} - 22 a_1 \partial_{\beta} \Gamma_{\chi}^{\delta} \partial_{\delta} \Gamma_{\alpha}^{\alpha \beta} + 38 a_1 \partial_{\beta} \Gamma_{\chi \delta}^{\delta} \partial^{\chi} \Gamma_{\alpha}^{\alpha \beta} + 22 a_1 \partial_{\chi} \Gamma_{\beta}^{\delta} \partial_{\delta} \Gamma^{\alpha \beta} - 2 a_1 \partial_{\chi} \Gamma_{\beta}^{\delta} \partial_{\delta} \Gamma^{\alpha \beta} \delta + 4 a_1 \partial_{\alpha} \Gamma_{\chi}^{\delta} \partial^{\chi} \Gamma_{\beta}^{\alpha \beta} - 4 a_1 \partial_{\chi} \Gamma_{\alpha}^{\delta} \partial^{\chi} \Gamma_{\beta}^{\alpha \beta} - 2 a_1 \partial_{\chi} \Gamma_{\beta}^{\alpha \beta} \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 \chi}^{\delta} + 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 \chi}^{\delta} - 22 a_1 \partial^{\chi} \Gamma_{\beta}^{\alpha \beta} \partial_{\delta} \Gamma_{\chi \alpha}^{\delta} + 2 a_1 \partial^{\chi} \Gamma_{\alpha}^{\alpha \beta} \partial_{\delta} \Gamma_{\chi \beta}^{\delta} - 2 a_1 \partial_{\beta} \Gamma^{\alpha \beta \chi} \partial_{\delta} \Gamma_{\chi}^{\delta} - 2 a_1 \partial^{\chi} \Gamma_{\alpha}^{\alpha \beta} \partial_{\delta} \Gamma_{\chi}^{\delta} + 2 a_1 \partial^{\chi} \Gamma_{\beta \alpha}^{\alpha \beta} \partial_{\delta} \Gamma_{\chi}^{\delta \alpha} + 4 a_1 \partial^{\chi} \Gamma_{\alpha}^{\alpha \beta} \partial_{\delta} \Gamma_{\chi}^{\delta \beta} - 2 a_1 \partial_{\beta} \Gamma_{\alpha}^{\beta} \partial_{\delta} \Gamma_{\chi}^{\delta} + 4 a_1 \partial_{\beta} \Gamma_{\alpha}^{\beta} \partial_{\delta} \Gamma_{\chi}^{\delta \alpha} - 2 a_1 \partial_{\beta} \Gamma_{\alpha}^{\beta} \partial_{\delta} \Gamma_{\chi}^{\delta \beta} + 4 a_1 \partial_{\beta} \Gamma_{\delta \alpha}^{\alpha \beta} \partial_{\delta} \Gamma_{\chi \beta}^{\delta} + 4 a_1 \partial_{\alpha} \Gamma_{\delta \beta \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 \chi \beta} \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}^{\alpha \beta} \partial^{\delta} \Gamma_{\alpha \chi}^{\chi} + 2 a_1 \partial_{\beta} \Gamma_{\delta \alpha}^{\alpha \beta} \partial^{\delta} \Gamma_{\chi}^{\chi \alpha})) [t, x, y, z] dz dy dx dt$$

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

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

$\Gamma_{3+}^{\#1}{}^{\alpha\beta\chi}$

$\Gamma_{3+}^{\#1}{}^{\alpha\beta\chi} \frac{1}{2}(-a_0-7a_1k^2)$

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

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

$\Delta_{3+}^{\#1}{}^{\alpha\beta\gamma}$

$\Delta_{3+}^{\#1}{}^{\alpha\beta\gamma} \frac{2}{a_0+\epsilon_1+\epsilon_2k^2}$

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