Particle spectrograph

Wave operator and propagator

	$\sigma^{\#1}_{1^+\,\alpha\beta}$	$\sigma^{\#2}_{1^+\,\alpha\beta}$	$\tau^{\#1}_{1^+\,\alpha\beta}$	$\sigma^{\#1}_{1^-\,\alpha}$	$\sigma^{\#2}_{1^-\,\alpha}$	$\tau^{\#1}_{1^-\,\alpha}$	$\tau^{\#2}_{1^-\,\alpha}$
$\sigma^{\#1}_{1^+}\dagger^{\alpha\beta}$	$\frac{1}{-\frac{3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)}{16(\beta_1+2\beta_3)}+(\alpha_2+\alpha_5)k^2}$	$-\frac{2\sqrt{2}(3\alpha_0-4\beta_1+16\beta_3)}{(1+k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	$-\frac{2i\sqrt{2}(3\alpha_0-4\beta_1+16\beta_3)k}{(1+k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	0	0	0	0
$\sigma^{\#2}_{1^+}\dagger^{\alpha\beta}$	$-\frac{2\sqrt{2}(3\alpha_0-4\beta_1+16\beta_3)}{(1+k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	$\frac{6\alpha_0+8(\beta_1+8\beta_3+3(\alpha_2+\alpha_5)k^2)}{(1+k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	$\frac{2ik(3\alpha_0+4(\beta_1+8\beta_3+3(\alpha_2+\alpha_5)k^2))}{(1+k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	0	0	0	0
$\tau^{\#1}_{1^+}\dagger^{\alpha\beta}$	$\frac{2i\sqrt{2}(3\alpha_0-4\beta_1+16\beta_3)k}{(1+k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	$-\frac{2ik(3\alpha_0+4(\beta_1+8\beta_3+3(\alpha_2+\alpha_5)k^2))}{(1+k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	$\frac{2k^2(3\alpha_0+4(\beta_1+8\beta_3+3(\alpha_2+\alpha_5)k^2))}{(1+k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)k^2)}$	0	0	0	0
$\sigma^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{1}{-\frac{3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)}{8(2\beta_1+\beta_2)}+(\alpha_4+\alpha_5)k^2}$	$\frac{2\sqrt{2}(3\alpha_0-4\beta_1+4\beta_2)}{(1+2k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$	0	$\frac{4i(3\alpha_0-4\beta_1+4\beta_2)k}{(1+2k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$
$\sigma^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{2\sqrt{2}(3\alpha_0-4\beta_1+4\beta_2)}{(1+2k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$	$\frac{6\alpha_0+8(\beta_1+2\beta_2+3(\alpha_4+\alpha_5)k^2)}{(1+2k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$	0	$\frac{2i\sqrt{2}k(3\alpha_0+4(\beta_1+2\beta_2+3(\alpha_4+\alpha_5)k^2))}{(1+2k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$
$\tau^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	0	0	0	0
$\tau^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$-\frac{4i(3\alpha_0-4\beta_1+4\beta_2)k}{(1+2k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$	$-\frac{2i\sqrt{2}k(3\alpha_0+4(\beta_1+2\beta_2+3(\alpha_4+\alpha_5)k^2))}{(1+2k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$	0	$\frac{4k^2(3\alpha_0+4(\beta_1+2\beta_2+3(\alpha_4+\alpha_5)k^2))}{(1+2k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)k^2)}$

Quadratic (free) Lagrangian density

$$
\begin{aligned}
&-\frac{1}{2}\alpha_0\,\omega_{\alpha\chi\beta}\,\omega^{\alpha\beta\chi}-\frac{1}{2}\alpha_0\,\omega^{\alpha\beta}_{\ \ \alpha}\,\omega_{\beta\ \chi}^{\ \chi}+\frac{2}{3}\beta_1\,\omega^{\alpha\beta}_{\ \ \alpha}\,\omega_{\beta\ \chi}^{\ \chi}-\frac{2}{3}\beta_2\,\omega^{\alpha\beta}_{\ \ \alpha}\,\omega^{\chi\ \ \ \delta}_{\ \chi\ \ \delta}+\frac{4}{3}\beta_3\,\omega^{\alpha\ \ \ \delta}_{\ \alpha\ \ \chi}\,\omega^{\ \chi}_{\chi\ \ \delta}+\\
&f^{\alpha\beta}\,T_{\alpha\beta}+\omega^{\alpha\beta\chi}\,\sigma_{\alpha\beta\chi}+\alpha_1\,\partial_\alpha\omega^{\chi\delta}_{\ \ \ \chi}\,\partial^\alpha\omega^{\ \ \ \zeta}_{\chi\ \ \delta}+\alpha_2\,\partial_\alpha\omega^{\chi\delta}_{\ \ \ \chi}\,\partial^\alpha\omega^{\ \ \ \zeta}_{\delta\ \ \zeta}+\\
&\alpha_4\,\partial_\alpha\omega^{\chi\delta}_{\ \ \ \chi}\,\partial^\beta\omega^{\ \ \ \zeta}_{\beta\ \ \zeta}-\frac{1}{3}\alpha_3\,\partial_\alpha\omega^{\chi\delta}_{\ \ \ \chi}\,\partial^\beta\omega^{\ \ \ \zeta}_{\beta\ \ \zeta}+\frac{2}{3}\beta_1\,\omega^{\alpha\beta}_{\ \ \alpha}\,\omega_{\beta\ \chi}^{\ \chi}-\frac{2}{3}\beta_2\,\omega^{\alpha\beta}_{\ \ \alpha}\,\omega^{\chi\ \ \ \delta}_{\ \chi\ \ \delta}+\frac{4}{3}\beta_3\,\omega^{\alpha\ \ \ \delta}_{\ \alpha\ \ \chi}\,\omega^{\ \chi}_{\chi\ \ \delta}+\\
&2\,\alpha_4\,\partial_\alpha\omega_{\delta\ \zeta}^{\ \chi}\,\partial^\alpha\omega^{\ \ \ \zeta}_{\chi\ \ \delta}+2\,\alpha_5\,\partial_\alpha\omega_{\delta\ \zeta}^{\ \chi}\,\partial^\delta\omega^{\ \ \ \zeta}_{\chi\ \ \alpha}-\frac{2}{3}\alpha_1\,\partial_\alpha\omega_{\delta\ \zeta}^{\ \chi}\,\partial^\zeta\omega^{\ \ \ \delta}_{\chi\ \ \alpha}-\\
&\frac{2}{3}\alpha_2\,\partial_\alpha\omega_{\delta\ \zeta}^{\ \chi}\,\partial^\zeta\omega^{\ \ \ \delta}_{\chi\ \ \alpha}-2\,\alpha_1\,\partial_\alpha\omega_{\delta\ \zeta}^{\ \chi}\,\partial^\delta\omega^{\ \ \ \zeta}_{\chi\ \ \alpha}-2\,\alpha_2\,\partial_\alpha\omega_{\delta\ \zeta}^{\ \chi}\,\partial^\delta\omega^{\ \ \ \zeta}_{\chi\ \ \alpha}+\\
&\frac{2}{3}\alpha_3\,\partial_\alpha\omega_{\delta\ \zeta}^{\ \chi}\,\partial^\delta\omega^{\ \ \ \zeta}_{\chi\ \ \alpha}+\frac{4}{3}\beta_1\,\omega_{\alpha\beta\chi}\,\partial^\chi f^{\alpha\beta}-\frac{8}{3}\beta_1\,\omega_{\alpha\chi\beta}\,\partial^\chi f^{\alpha\beta}-\frac{2}{3}\beta_1\,\omega_{\beta\alpha\chi}\,\partial^\chi f^{\alpha\beta}+\\
&\frac{4}{3}\beta_3\,\omega_{\alpha\beta\chi}\,\partial^\chi f^{\alpha\beta}+\frac{8}{3}\beta_1\,\omega_{\alpha\chi\beta}\,\partial^\chi f^{\alpha\beta}+\frac{4}{3}\beta_1\,\omega_{\beta\alpha\chi}\,\partial^\chi f^{\alpha\beta}+\frac{8}{3}\beta_3\,\omega_{\beta\chi\alpha}\,\partial^\chi f^{\alpha\beta}+\frac{2}{3}\beta_1\,\partial_\chi f_\beta^{\ \delta}\,\partial^\chi f_\delta^{\ \beta}-\\
&\frac{2}{3}\beta_3\,\partial_\chi f_\beta^{\ \delta}\,\partial^\chi f_\delta^{\ \beta}+\frac{4}{3}\beta_1\,\partial_\chi f^{\alpha\delta}\,\partial^\chi f_{\beta\delta}+\frac{2}{3}\beta_2\,\partial_\chi f^{\alpha\delta}\,\partial^\chi f_{\beta\delta}+\frac{4}{3}\alpha_1\,\partial_\beta\omega^{\alpha\beta}_{\ \ \alpha}\,\partial_\delta\omega^{\chi\delta}_{\ \ \ \chi}+\\
&\frac{2}{3}\beta_2\,\partial_\beta f^{\ \delta}_{\chi}\,\partial_\delta f^{\chi\beta}+\frac{4}{3}\alpha_1\,\partial_\beta\omega^{\alpha\beta}_{\ \ \alpha}\,\partial_\delta\omega^{\chi\delta}_{\ \ \ \chi}+\frac{4}{3}\alpha_3\,\partial_\beta\omega^{\alpha\beta}_{\ \ \alpha}\,\partial_\delta\omega^{\chi\delta}_{\ \ \ \chi}+\\
&\frac{1}{3}\alpha_3\,\partial_\chi\omega^{\zeta\alpha\beta}\,\partial^\chi\omega_{\zeta\alpha\beta}+\frac{4}{3}\beta_1\,\partial^\beta f^{\alpha}_{\ \alpha}\,\partial_\delta f^{\ \delta}_{\beta}-\frac{4}{3}\beta_2\,\partial^\beta f^{\alpha}_{\ \alpha}\,\partial_\delta f^{\ \delta}_{\beta}+\\
&\frac{2}{3}\alpha_6\,\partial_\beta\omega^{\alpha\beta}_{\ \ \alpha}\,\partial_\delta\omega^{\chi\delta}_{\ \ \ \chi}+\frac{4}{3}\alpha_1\,\partial^\beta\omega^{\ \ \ \zeta}_{\alpha\ \ \beta}\,\partial_\delta\omega^{\alpha\ \ \ \delta}_{\ \zeta\ \ \beta}+\\
&\frac{2}{3}\alpha_3\,\partial^\beta\omega^{\ \ \ \zeta}_{\alpha\ \ \beta}\,\partial_\delta\omega^{\alpha\ \ \ \delta}_{\ \zeta\ \ \beta}-2\,\alpha_2\,\partial^\beta\omega^{\ \ \ \zeta}_{\alpha\ \ \beta}\,\partial_\delta\omega^{\alpha\ \ \ \delta}_{\ \zeta\ \ \beta}+\\
&\alpha_1\,\partial_\beta\omega^{\ \ \ \zeta}_{\delta\ \ \zeta}\,\partial^\delta\omega^{\chi\beta}_{\ \ \ \chi}+\alpha_2\,\partial_\beta\omega^{\ \ \ \zeta}_{\delta\ \ \zeta}\,\partial^\delta\omega^{\chi\beta}_{\ \ \ \chi}+\alpha_4\,\partial_\beta\omega^{\ \ \ \zeta}_{\delta\ \ \zeta}\,\partial^\delta\omega^{\chi\beta}_{\ \ \ \chi}-\alpha_5\,\partial_\beta\omega^{\ \ \ \zeta}_{\delta\ \ \zeta}\,\partial^\delta\omega^{\chi\beta}_{\ \ \ \chi}+\\
&\alpha_1\,\partial_\chi\omega^{\chi\delta\beta}\,\partial_\zeta\omega^{\ \ \ \zeta}_{\delta\ \ \beta}+\alpha_2\,\partial_\chi\omega^{\chi\delta\beta}\,\partial_\zeta\omega^{\ \ \ \zeta}_{\delta\ \ \beta}-\alpha_4\,\partial_\chi\omega^{\chi\delta\beta}\,\partial_\zeta\omega^{\ \ \ \zeta}_{\delta\ \ \beta}+\alpha_5\,\partial_\chi\omega^{\chi\delta\beta}\,\partial_\zeta\omega^{\ \ \ \zeta}_{\delta\ \ \beta}+\\
&\alpha_1\,\partial^\delta\omega^{\beta\chi}_{\ \ \ \chi}\,\partial_\zeta\omega^{\ \ \ \zeta}_{\beta\ \ \delta}-\alpha_2\,\partial^\delta\omega^{\beta\chi}_{\ \ \ \chi}\,\partial_\zeta\omega^{\ \ \ \zeta}_{\beta\ \ \delta}+\alpha_4\,\partial^\delta\omega^{\beta\chi}_{\ \ \ \chi}\,\partial_\zeta\omega^{\ \ \ \zeta}_{\beta\ \ \delta}-\alpha_5\,\partial^\delta\omega^{\beta\chi}_{\ \ \ \chi}\,\partial_\zeta\omega^{\ \ \ \zeta}_{\beta\ \ \delta}+\\
&\frac{2}{3}\beta_1\,\partial^\chi f_{\delta\zeta}\,\partial^\zeta f^{\delta}_{\ \chi}-\frac{2}{3}\beta_3\,\partial^\chi f_{\delta\zeta}\,\partial^\zeta f^{\delta}_{\ \chi}-\frac{2}{3}\beta_1\,\partial^\chi f_{\zeta\delta}\,\partial^\zeta f^{\delta}_{\ \chi}+\frac{2}{3}\beta_3\,\partial^\chi f_{\zeta\delta}\,\partial^\zeta f^{\delta}_{\ \chi}+\\
&\frac{2}{3}\beta_1\,\partial^\chi f_{\beta\zeta}\,\partial^\zeta f^{\ \beta}_{\chi}-\frac{2}{3}\beta_3\,\partial^\chi f_{\beta\zeta}\,\partial^\zeta f^{\ \beta}_{\chi}-\frac{4}{3}\beta_1\,\partial^\chi f_{\zeta}^{\ \beta}\,\partial^\zeta f_{\chi\beta}+\\
&\frac{2}{3}\beta_1\,\partial^\chi f_{\zeta}^{\ \beta}\,\partial^\zeta f_{\chi\beta}+\frac{2}{3}\beta_3\,\partial^\chi f_{\zeta}^{\ \beta}\,\partial^\zeta f_{\chi\beta}-\frac{4}{3}\beta_3\,\partial^\chi f_{\zeta}^{\ \beta}\,\partial^\zeta f_{\chi\beta}+\\
&\frac{2}{3}\beta_1\,\partial^\chi f_{\zeta\delta}\,\partial^\zeta f^{\delta}_{\ \chi}+\frac{2}{3}\beta_3\,\partial^\chi f_{\zeta\delta}\,\partial^\zeta f^{\delta}_{\ \chi}
\end{aligned}
$$

	$\omega^{\#1}_{1^+\,\alpha\beta}$	$\omega^{\#2}_{1^+\,\alpha\beta}$	$f^{\#1}_{1^+\,\alpha\beta}$	$\omega^{\#1}_{1^-\,\alpha}$	$\omega^{\#2}_{1^-\,\alpha}$	$f^{\#1}_{1^-\,\alpha}$	$f^{\#2}_{1^-\,\alpha}$
$\omega^{\#1}_{1^+}\dagger^{\alpha\beta}$	$\frac{\alpha_0}{4}+\frac{1}{3}(\beta_1+8\beta_3)+(\alpha_2+\alpha_5)k^2$	$\frac{3\alpha_0-4\beta_1+16\beta_3}{6\sqrt{2}}$	$\frac{i(3\alpha_0-4\beta_1+16\beta_3)k}{6\sqrt{2}}$	0	0	0	0
$\omega^{\#2}_{1^+}\dagger^{\alpha\beta}$	$\frac{3\alpha_0-4\beta_1+16\beta_3}{6\sqrt{2}}$	$\frac{2}{3}(\beta_1+2\beta_3)$	$\frac{2}{3}i(\beta_1+2\beta_3)k$	0	0	0	0
$f^{\#1}_{1^+}\dagger^{\alpha\beta}$	$-\frac{i(3\alpha_0-4\beta_1+16\beta_3)k}{6\sqrt{2}}$	$-\frac{2}{3}i(\beta_1+2\beta_3)k$	$\frac{2}{3}(\beta_1+2\beta_3)k^2$	0	0	0	0
$\omega^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{\alpha_0}{4}+\frac{1}{3}(\beta_1+2\beta_2)+(\alpha_4+\alpha_5)k^2$	$-\frac{3\alpha_0-4\beta_1+4\beta_2}{6\sqrt{2}}$	0	$-\frac{1}{6}i(3\alpha_0-4\beta_1+4\beta_2)k$
$\omega^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$-\frac{3\alpha_0-4\beta_1+4\beta_2}{6\sqrt{2}}$	$\frac{1}{3}(2\beta_1+\beta_2)$	0	$\frac{1}{3}i\sqrt{2}(2\beta_1+\beta_2)k$
$f^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	0	0	0	0
$f^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{1}{6}i(3\alpha_0-4\beta_1+4\beta_2)k$	$-\frac{1}{3}i\sqrt{2}(2\beta_1+\beta_2)k$	0	$\frac{2}{3}(2\beta_1+\beta_2)k^2$

	$\omega^{\#1}_{0^+}$	$f^{\#1}_{0^+}$	$f^{\#2}_{0^+}$	$\omega^{\#1}_{0^-}$
$\omega^{\#1}_{0^+}\dagger$	$\frac{\alpha_0}{2}+\beta_2+(\alpha_4+\alpha_6)k^2$	$-\frac{i(\alpha_0+2\beta_2)k}{\sqrt{2}}$	0	0
$f^{\#1}_{0^+}\dagger$	$\frac{i(\alpha_0+2\beta_2)k}{\sqrt{2}}$	$2\beta_2 k^2$	0	0
$f^{\#2}_{0^+}\dagger$	0	0	0	0
$\omega^{\#1}_{0^-}\dagger$	0	0	0	$\frac{\alpha_0}{2}+4\beta_3+(\alpha_2+\alpha_3)k^2$

Source constraints/gauge generators

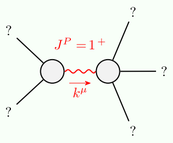
SO(3) irreps	Multiplicities
$\tau^{\#2}_{0^+}==0$	1
$\tau^{\#2\,\alpha}_{1^-}+2ik\,\sigma^{\#2\,\alpha}_{1^-}==0$	3
$\tau^{\#1\,\alpha}_{1^-}==0$	3
$\tau^{\#1\,\alpha\beta}_{1^+}+ik\,\sigma^{\#2\,\alpha\beta}_{1^+}==0$	3
Total constraints:	10

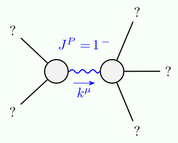
	$\omega^{\#1}_{2^+\,\alpha\beta}$	$f^{\#1}_{2^+\,\alpha\beta}$	$\omega^{\#1}_{2^-\,\alpha\beta\chi}$
$\omega^{\#1}_{2^+}\dagger^{\alpha\beta}$	$-\frac{\alpha_0}{4}+\beta_1+(\alpha_1+\alpha_4)k^2$	$\frac{i(\alpha_0-4\beta_1)k}{2\sqrt{2}}$	0
$f^{\#1}_{2^+}\dagger^{\alpha\beta}$	$-\frac{i(\alpha_0-4\beta_1)k}{2\sqrt{2}}$	$2\beta_1 k^2$	0
$\omega^{\#1}_{2^-}\dagger^{\alpha\beta\chi}$	0	0	$-\frac{\alpha_0}{4}+\beta_1+(\alpha_1+\alpha_2)k^2$

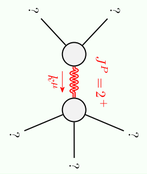
	$\sigma^{\#1}_{0^+}$	$\tau^{\#1}_{0^+}$	$\tau^{\#2}_{0^+}$	$\sigma^{\#1}_{0^-}$
$\sigma^{\#1}_{0^+}\dagger$	$-\frac{4\beta_2}{\alpha_0{}^2+2\alpha_0\beta_2-4(\alpha_4+\alpha_6)\beta_2 k^2}$	$\frac{i\sqrt{2}(\alpha_0+2\beta_2)}{-\alpha_0(\alpha_0+2\beta_2)k+4(\alpha_4+\alpha_6)\beta_2 k^3}$	0	0
$\tau^{\#1}_{0^+}\dagger$	$\frac{i\sqrt{2}(\alpha_0+2\beta_2)}{\alpha_0(\alpha_0+2\beta_2)k-4(\alpha_4+\alpha_6)\beta_2 k^3}$	$\frac{\frac{\alpha_0}{2}+\beta_2+(\alpha_4+\alpha_6)k^2}{-\frac{1}{2}\alpha_0(\alpha_0+2\beta_2)k^2+2(\alpha_4+\alpha_6)\beta_2 k^4}$	0	0
$\tau^{\#2}_{0^+}\dagger$	0	0	0	0
$\sigma^{\#1}_{0^-}\dagger$	0	0	0	$\frac{2}{\alpha_0+8\beta_3+2(\alpha_2+\alpha_3)k^2}$

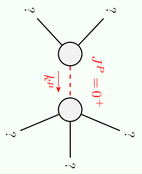
	$\sigma^{\#1}_{2^+\,\alpha\beta}$	$\tau^{\#1}_{2^+\,\alpha\beta}$	$\sigma^{\#1}_{2^-\,\alpha\beta\chi}$
$\sigma^{\#1}_{2^+}\dagger^{\alpha\beta}$	$\frac{16\beta_1}{-\alpha_0{}^2+4\alpha_0\beta_1+16(\alpha_1+\alpha_4)\beta_1 k^2}$	$\frac{2i\sqrt{2}(\alpha_0-4\beta_1)}{\alpha_0(\alpha_0-4\beta_1)k-16(\alpha_1+\alpha_4)\beta_1 k^3}$	0
$\tau^{\#1}_{2^+}\dagger^{\alpha\beta}$	$-\frac{2i\sqrt{2}(\alpha_0-4\beta_1)}{\alpha_0(\alpha_0-4\beta_1)k-16(\alpha_1+\alpha_4)\beta_1 k^3}$	$\frac{2(\alpha_0-4(\beta_1+(\alpha_1+\alpha_4)k^2))}{k^2(\alpha_0{}^2-4\alpha_0\beta_1-16(\alpha_1+\alpha_4)\beta_1 k^2)}$	0
$\sigma^{\#1}_{2^-}\dagger^{\alpha\beta\chi}$	0	0	$\frac{1}{-\frac{\alpha_0}{4}+\beta_1+(\alpha_1+\alpha_2)k^2}$

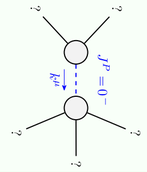
Massive and massless spectra

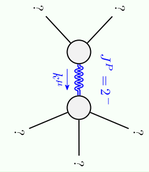


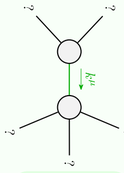












Massive particle	
Pole residue:	$(3(\alpha_0{}^2(3\alpha_2+3\alpha_5+2\beta_1+4\beta_3)-8\alpha_0(\beta_1{}^2+\alpha_2(\beta_1-4\beta_3)+\alpha_5(\beta_1-4\beta_3)-4\beta_3{}^2)+16(-4\beta_1\beta_3(\beta_1+2\beta_3)+\alpha_2(\beta_1{}^2+8\beta_3{}^2)+\alpha_5(\beta_1{}^2+8\beta_3{}^2)))))/(2(\alpha_2+\alpha_5)(\beta_1+2\beta_3)(3\alpha_0{}^2-12\alpha_0(\beta_1-2\beta_3)+16(\alpha_5\beta_1+2\alpha_5\beta_3-6\beta_1\beta_3+\alpha_2(\beta_1+2\beta_3))))>0$
Polarisations:	3
Square mass:	$\frac{3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)}{16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)}>0$
Spin:	1
Parity:	Even

Massive particle	
Pole residue:	$-((3(\alpha_0{}^2(3\alpha_4+3\alpha_5+4\beta_1+2\beta_2)+4\alpha_0(-2\alpha_4\beta_1-2\alpha_5\beta_1-4\beta_1{}^2+2\alpha_4\beta_2+2\alpha_5\beta_2+\beta_2{}^2)+8(-2\beta_1\beta_2(2\beta_1+\beta_2)+\alpha_4(2\beta_1{}^2+\beta_2{}^2)+\alpha_5(2\beta_1{}^2+\beta_2{}^2)))))/(2(\alpha_4+\alpha_5)(2\beta_1+\beta_2)(3\alpha_0{}^2+6\alpha_0(-2\beta_1+\beta_2)+4(2\alpha_5\beta_1+\alpha_5\beta_2-6\beta_1\beta_2+\alpha_4(2\beta_1+\beta_2)))))>0$
Polarisations:	3
Square mass:	$\frac{3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)}{8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)}>0$
Spin:	1
Parity:	Odd

Massive particle	
Pole residue:	$-\frac{2}{\alpha_0}+\frac{\alpha_1+\alpha_4+2\beta_1}{2\alpha_1\beta_1+2\alpha_4\beta_1}>0$
Pole residue:	$-\frac{2}{\alpha_0}+\frac{\alpha_1+\alpha_4+2\beta_1}{2\alpha_1\beta_1+2\alpha_4\beta_1}>0$
Spin:	2
Square mass:	$\frac{\alpha_0(\alpha_0-4\beta_1)}{16(\alpha_1+\alpha_4)\beta_1}>0$
Polarisations:	5
Parity:	Even

Massive particle	
Pole residue:	$\frac{1}{\alpha_0}+\frac{\alpha_4+\alpha_6+2\beta_2}{2\alpha_4\beta_2+2\alpha_6\beta_2}>0$
Spin:	0
Square mass:	$\frac{\alpha_0(\alpha_0+2\beta_2)}{4(\alpha_4+\alpha_6)\beta_2}>0$
Polarisations:	1
Parity:	Even

Massive particle	
Pole residue:	$-\frac{1}{\alpha_2+\alpha_3}>0$
Spin:	0
Square mass:	$-\frac{\alpha_0+8\beta_3}{2(\alpha_2+\alpha_3)}>0$
Polarisations:	1
Parity:	Odd

Massive particle	
Pole residue:	$-\frac{1}{\alpha_1+\alpha_2}>0$
Spin:	2
Square mass:	$\frac{\alpha_0-4\beta_1}{4(\alpha_1+\alpha_2)}>0$
Polarisations:	5
Parity:	Odd

Quadratic pole	
Pole residue:	$\frac{1}{\alpha_0}>0$
Polarisations:	2

Unitarity conditions

(Unitarity is demonstrably impossible)