Lagrangian density

$$-\frac{1}{2}\alpha_0\,\omega_{\alpha\chi\beta}\,\omega^{\alpha\beta\chi}-\frac{1}{2}\alpha_0\,\omega^{\alpha\beta}{}_{\alpha}\,\omega_{\beta}{}^{\chi}{}_{\chi}+2\beta_1\,\omega^{\alpha\beta}{}_{\alpha}\,\omega_{\beta}{}^{\chi}{}_{\chi}-$$
$$2\beta_1\,\omega_{\alpha}{}^{\chi\delta}\,\omega_{\chi\delta}{}^{\alpha}-2\beta_1\,\omega_{\alpha}{}^{\chi}{}_{\chi}\,\partial_{\beta}f^{\alpha\beta}-2\beta_1\,\omega_{\alpha}{}^{\delta}{}_{\delta}\,\partial_{\beta}f^{\alpha\beta}-\alpha_0\,f^{\alpha\beta}\,\partial_{\beta}\omega_{\alpha}{}^{\chi}{}_{\chi}+$$
$$\alpha_0\,\partial_{\beta}\omega^{\alpha\beta}{}_{\alpha}+\frac{2}{3}\alpha_3\,\partial^{\alpha}\omega^{\beta\zeta}{}_{\chi}\,\partial_{\beta}\omega_{\zeta\alpha}{}^{\chi}+2\beta_1\,\omega_{\beta}{}^{\chi}{}_{\chi}\,\partial^{\beta}f^{\alpha}{}_{\alpha}+$$
$$2\beta_1\,\omega_{\beta}{}^{\delta}{}_{\delta}\,\partial^{\beta}f^{\alpha}{}_{\alpha}-2\beta_1\,\partial_{\beta}f^{\chi}{}_{\chi}\,\partial^{\beta}f^{\alpha}{}_{\alpha}+\alpha_0\,f^{\alpha\beta}\,\partial_{\chi}\omega_{\alpha}{}^{\chi}{}_{\beta}-$$
$$\alpha_0\,f^{\alpha}{}_{\alpha}\,\partial_{\chi}\omega^{\beta\chi}{}_{\beta}-\frac{2}{3}\alpha_3\,\partial_{\beta}\omega_{\zeta\alpha}{}^{\chi}\,\partial_{\chi}\omega^{\beta\zeta\alpha}-\frac{1}{3}\alpha_3\,\partial_{\beta}\omega_{\zeta\alpha}{}^{\chi}\,\partial_{\chi}\omega^{\zeta\alpha\beta}+$$
$$4\beta_1\,\omega_{\alpha\chi\beta}\,\partial^{\chi}f^{\alpha\beta}+\beta_1\,\partial_{\chi}f_{\beta}{}^{\delta}\,\partial^{\chi}f_{\delta}{}^{\beta}+\beta_1\,\partial_{\chi}f^{\delta}{}_{\beta}\,\partial^{\chi}f_{\delta}{}^{\beta}+$$
$$\frac{2}{3}\alpha_3\,\partial_{\chi}\omega^{\beta\zeta\alpha}\,\partial^{\chi}\omega_{\zeta\alpha\beta}+\frac{1}{3}\alpha_3\,\partial_{\chi}\omega^{\zeta\alpha\beta}\,\partial^{\chi}\omega_{\zeta\alpha\beta}+4\beta_1\,\partial^{\beta}f^{\alpha}{}_{\alpha}\,\partial_{\delta}f_{\beta}{}^{\delta}-$$
$$2\beta_1\,\partial_{\beta}f_{\chi}{}^{\beta}\,\partial_{\delta}f^{\chi\delta}+\frac{2}{3}\alpha_3\,\partial^{\beta}\omega_{\alpha}{}^{\delta\zeta}\,\partial_{\delta}\omega_{\zeta\beta}{}^{\alpha}-\frac{2}{3}\alpha_3\,\partial^{\beta}\omega_{\alpha}{}^{\zeta\delta}\,\partial_{\delta}\omega_{\zeta\beta}{}^{\alpha}-$$
$$\beta_1\,\partial^{\chi}f_{\zeta}{}^{\beta}\,\partial^{\zeta}f_{\beta\chi}-\beta_1\,\partial^{\chi}f_{\zeta}{}^{\beta}\,\partial^{\zeta}f_{\chi\beta}+\beta_1\,\partial^{\chi}f_{\delta\zeta}\,\partial^{\zeta}f^{\delta}{}_{\chi}-\beta_1\,\partial^{\chi}f_{\zeta\delta}\,\partial^{\zeta}f^{\delta}{}_{\chi}$$

Added source term: $f^{\alpha\beta}\,\tau_{\alpha\beta}+\omega^{\alpha\beta\chi}\,\sigma_{\alpha\beta\chi}$

	$\sigma^{\#1}_{1^+\alpha\beta}$	$\sigma^{\#2}_{1^+\alpha\beta}$	$\tau^{\#1}_{1^+\alpha\beta}$	$\sigma^{\#1}_{1^-\alpha}$	$\sigma^{\#2}_{1^-\alpha}$	$\tau^{\#1}_{1^-\alpha}$	$\tau^{\#2}_{1^-\alpha}$
$\sigma^{\#1}_{1^+}\dagger^{\alpha\beta}$	0	$\frac{2\sqrt{2}}{(\alpha_0-4\beta_1)(1+k^2)}$	$\frac{2i\sqrt{2}k}{(\alpha_0-4\beta_1)(1+k^2)}$	0	0	0	0
$\sigma^{\#2}_{1^+}\dagger^{\alpha\beta}$	$\frac{2\sqrt{2}}{(\alpha_0-4\beta_1)(1+k^2)}$	$-\frac{2}{(\alpha_0-4\beta_1)(1+k^2)^2}$	$-\frac{2ik}{(\alpha_0-4\beta_1)(1+k^2)^2}$	0	0	0	0
$\tau^{\#1}_{1^+}\dagger^{\alpha\beta}$	$-\frac{2i\sqrt{2}k}{(\alpha_0-4\beta_1)(1+k^2)}$	$\frac{2ik}{(\alpha_0-4\beta_1)(1+k^2)^2}$	$-\frac{2k^2}{(\alpha_0-4\beta_1)(1+k^2)^2}$	0	0	0	0
$\sigma^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	0	$-\frac{2\sqrt{2}}{(\alpha_0-4\beta_1)(1+2k^2)}$	0	$-\frac{4ik}{(\alpha_0-4\beta_1)(1+2k^2)}$
$\sigma^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$-\frac{2\sqrt{2}}{(\alpha_0-4\beta_1)(1+2k^2)}$	$-\frac{2}{(\alpha_0-4\beta_1)(1+2k^2)^2}$	0	$-\frac{2i\sqrt{2}k}{(\alpha_0-4\beta_1)(1+2k^2)^2}$
$\tau^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	0	0	0	0
$\tau^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$\frac{4ik}{(\alpha_0-4\beta_1)(1+2k^2)}$	$\frac{2i\sqrt{2}k}{(\alpha_0-4\beta_1)(1+2k^2)^2}$	0	$-\frac{4k^2}{(\alpha_0-4\beta_1)(1+2k^2)^2}$

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

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

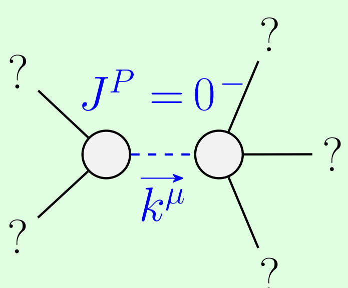
	$\sigma^{\#1}_{2^+\alpha\beta}$	$\tau^{\#1}_{2^+\alpha\beta}$	$\sigma^{\#1}_{2^-\alpha\beta\chi}$
$\sigma^{\#1}_{2^+}\dagger^{\alpha\beta}$	$-\frac{16\beta_1}{\alpha_0^2-4\alpha_0\beta_1}$	$\frac{2i\sqrt{2}}{\alpha_0 k}$	0
$\tau^{\#1}_{2^+}\dagger^{\alpha\beta}$	$-\frac{2i\sqrt{2}}{\alpha_0 k}$	$\frac{2}{\alpha_0 k^2}$	0
$\sigma^{\#1}_{2^-}\dagger^{\alpha\beta\chi}$	0	0	$\frac{1}{-\frac{\alpha_0}{4}+\beta_1}$

Source constraints

SO(3) irreps	#
$\tau^{\#2}_{0^+} == 0$	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 #:	10

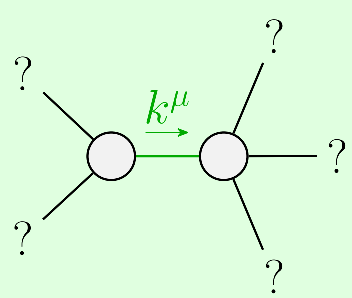
	$\omega^{\#1}_{0^+}$	$f^{\#1}_{0^+}$	$f^{\#2}_{0^+}$	$\omega^{\#1}_{0^-}$
$\omega^{\#1}_{0^+}\dagger$	$\frac{1}{2}(\alpha_0-4\beta_1)$	$-\frac{i(\alpha_0-4\beta_1)k}{\sqrt{2}}$	0	0
$f^{\#1}_{0^+}\dagger$	$\frac{i(\alpha_0-4\beta_1)k}{\sqrt{2}}$	$-4\beta_1 k^2$	0	0
$f^{\#2}_{0^+}\dagger$	0	0	0	0
$\omega^{\#1}_{0^-}\dagger$	0	0	0	$\frac{\alpha_0}{2}-2\beta_1+\alpha_3 k^2$

	$\sigma^{\#1}_{0^+}$	$\tau^{\#1}_{0^+}$	$\tau^{\#2}_{0^+}$	$\sigma^{\#1}_{0^-}$
$\sigma^{\#1}_{0^+}\dagger$	$\frac{8\beta_1}{\alpha_0^2-4\alpha_0\beta_1}$	$-\frac{i\sqrt{2}}{\alpha_0 k}$	0	0
$\tau^{\#1}_{0^+}\dagger$	$\frac{i\sqrt{2}}{\alpha_0 k}$	$-\frac{1}{\alpha_0 k^2}$	0	0
$\tau^{\#2}_{0^+}\dagger$	0	0	0	0
$\sigma^{\#1}_{0^-}\dagger$	0	0	0	$\frac{2}{\alpha_0-4\beta_1+2\alpha_3 k^2}$



Massive particle

Pole residue:	$-\frac{1}{\alpha_3}>0$
Polarisations:	1
Square mass:	$-\frac{\alpha_0-4\beta_1}{2\alpha_3}>0$
Spin:	0
Parity:	Odd



Quadratic pole

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

Unitarity conditions

$\alpha_0 > 0$ && $\alpha_3 < 0$ && $\beta_1 < \frac{\alpha_0}{4}$