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

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

Lagrangian density

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

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

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

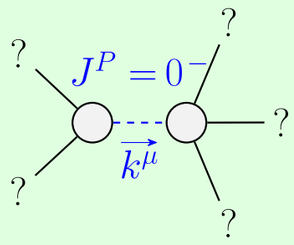
	$\omega_{2^+}^{\#1}{}_{\alpha\beta}$	$f_{2^+}^{\#1}{}_{\alpha\beta}$	$\omega_{2^-}^{\#1}{}_{\alpha\beta\chi}$
$\omega_{2^+}^{\#1}{}^{\dagger}{}^{\alpha\beta}$	$-\frac{\alpha_0}{4}+\beta_1$	$\frac{i(\alpha_0-4\beta_1)k}{2\sqrt{2}}$	0
$f_{2^+}^{\#1}{}^{\dagger}{}^{\alpha\beta}$	$-\frac{i(\alpha_0-4\beta_1)k}{2\sqrt{2}}$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

	$\sigma_{0^+}^{\#1}$	$\tau_{0^+}^{\#1}$	$\tau_{0^+}^{\#2}$	$\sigma_{0^-}^{\#1}$
$\sigma_{0^+}^{\#1}{}^{\dagger}$	$\frac{8\beta_1}{\alpha_0{}^2-4\alpha_0\beta_1}$	$-\frac{i\sqrt{2}}{\alpha_0 k}$	0	0
$\tau_{0^+}^{\#1}{}^{\dagger}$	$\frac{i\sqrt{2}}{\alpha_0 k}$	$-\frac{1}{\alpha_0 k^2}$	0	0
$\tau_{0^+}^{\#2}{}^{\dagger}$	0	0	0	0
$\sigma_{0^-}^{\#1}{}^{\dagger}$	0	0	0	$\frac{2}{\alpha_{0}-4\beta_1+2\alpha_3 k^2}$

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

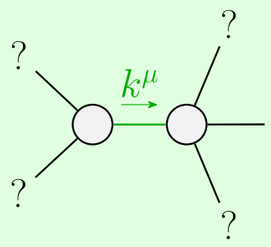
Source constraints

SO(3) irreps	#
$\tau_{0^+}^{\#2}==0$	1
$\tau_{1^-}^{\#2\,\alpha}+2ik\,\sigma_{1^-}^{\#2\,\alpha}==0$	3
$\tau_{1^-}^{\#1\,\alpha}==0$	3
$\tau_{1^+}^{\#1\,\alpha\beta}+ik\,\sigma_{1^+}^{\#2\,\alpha\beta}==0$	3
Total #:	10



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

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