

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

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

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

Lagrangian density

$$-\frac{1}{2} \alpha_0 \omega_{\alpha \chi \beta} \omega^{\alpha \beta \chi} - \frac{1}{2} \alpha_0 \omega_{\alpha}^{\alpha \beta} \omega_{\beta \chi}^{\chi} + 2 \beta_1 \omega_{\alpha}^{\alpha \beta} \omega_{\beta \chi}^{\chi} - 2 \beta_1 \omega_{\chi \delta}^{\chi \delta} \omega_{\chi \delta}^{\alpha} - 2 \beta_1 \omega_{\alpha \chi}^{\chi} \partial_{\beta} f^{\alpha \beta} - 2 \beta_1 \omega_{\alpha}^{\delta} \partial_{\delta} f^{\alpha \beta} - \alpha_0 f^{\alpha \beta} \partial_{\beta} \omega_{\alpha \chi}^{\chi} + \alpha_0 \partial_{\beta} \omega_{\alpha}^{\alpha \beta} + 2 \beta_1 \omega_{\beta \chi}^{\chi} \partial_{\beta} f_{\alpha}^{\alpha} + 2 \beta_1 \omega_{\beta \delta}^{\delta} \partial_{\delta} f_{\alpha}^{\alpha} - 2 \beta_1 \partial_{\beta} f^{\chi \chi} \partial_{\beta} f_{\alpha}^{\alpha} + \alpha_0 f^{\alpha \beta} \partial_{\chi} \omega_{\alpha \beta}^{\chi} - \alpha_0 f_{\alpha}^{\alpha} \partial_{\chi} \omega^{\beta \chi}_{\beta} + 4 \beta_1 \omega_{\alpha \chi \beta} \partial^{\chi} f^{\alpha \beta} + \beta_1 \partial_{\chi} f_{\beta}^{\delta} \partial^{\chi} f_{\delta}^{\beta} + \beta_1 \partial_{\chi} f_{\beta}^{\delta} \partial^{\chi} f_{\delta}^{\beta} + 4 \beta_1 \partial^{\beta} f_{\alpha}^{\alpha} \partial_{\delta} f_{\beta}^{\delta} - 2 \beta_1 \partial_{\beta} f_{\chi}^{\beta} \partial_{\delta} f^{\chi \delta} + \frac{2}{3} \alpha_6 \partial_{\beta} \omega^{\alpha \beta}_{\alpha} \partial_{\delta} \omega^{\delta \delta}_{\chi} - \beta_1 \partial^{\chi} f_{\zeta \delta} \partial^{\delta} f_{\chi}^{\zeta} - \beta_1 \partial^{\chi} f_{\zeta}^{\beta} \partial^{\delta} f_{\beta \chi}^{\zeta} - \beta_1 \partial^{\chi} f_{\chi \beta}^{\beta} \partial^{\delta} f_{\delta \zeta}^{\zeta} - \beta_1 \partial^{\chi} f_{\zeta \delta} \partial^{\delta} f_{\chi}^{\zeta}$$

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

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

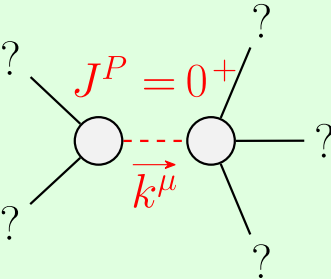
	$\omega_{0^+}^{\#1}$	$f_{0^+}^{\#1}$	$f_{0^+}^{\#2}$	$\omega_{0^+}^{\#1}$
$\omega_{0^+}^{\#1} \dagger$	$\frac{\alpha_0}{2} - 2 \beta_1 + \alpha_6 k^2$	$-\frac{i(\alpha_0-4\beta_1)k}{\sqrt{2}}$	0	0
$f_{0^+}^{\#1} \dagger$	$\frac{i(\alpha_0-4\beta_1)k}{\sqrt{2}}$	$-4 \beta_1 k^2$	0	0
$f_{0^+}^{\#2} \dagger$	0	0	0	0
$\omega_{0^+}^{\#1} \dagger$	0	0	0	$\frac{1}{2} (\alpha_0 - 4 \beta_1)$

	$\sigma_{0^+}^{\#1}$	$\tau_{0^+}^{\#1}$	$\tau_{0^+}^{\#2}$	$\sigma_{0^+}^{\#1}$
$\sigma_{0^+}^{\#1} \dagger$	$\frac{8 \beta_1}{\alpha_0^2-4 \alpha_0 \beta_1+8 \alpha_6 \beta_1 k^2}$	$-\frac{i \sqrt{2} (\alpha_0-4 \beta_1)}{\alpha_0 (\alpha_0-4 \beta_1) k+8 \alpha_6 \beta_1 k^3}$	0	0
$\tau_{0^+}^{\#1} \dagger$	$\frac{i \sqrt{2} (\alpha_0-4 \beta_1)}{\alpha_0 (\alpha_0-4 \beta_1) k+8 \alpha_6 \beta_1 k^3}$	$-\frac{\alpha_0-4 \beta_1+2 \alpha_6 k^2}{k^2 (\alpha_0^2-4 \alpha_0 \beta_1+8 \alpha_6 \beta_1 k^2)}$	0	0
$\tau_{0^+}^{\#2} \dagger$	0	0	0	0
$\sigma_{0^+}^{\#1} \dagger$	0	0	0	$\frac{2}{\alpha_0-4 \beta_1}$

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

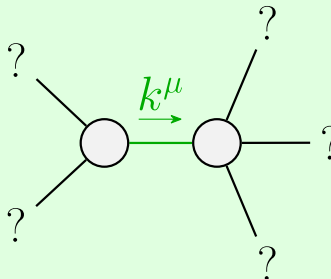
Massive particle

Pole residue:	$\frac{1}{\alpha_0} + \frac{1}{\alpha_6} - \frac{1}{4\beta_1} > 0$
Polarisations:	1
Square mass:	$-\frac{\alpha_0(\alpha_0-4\beta_1)}{8\alpha_6\beta_1} > 0$
Spin:	0
Parity:	Even



Quadratic pole

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



Unitarity conditions

$$\alpha_0 > 0 \ \&\& \ \alpha_6 > 0 \ \&\& \ \beta_1 < 0 \ || \ \beta_1 > \frac{\alpha_0}{4}$$