

	$h_{1-}^{\#1} \alpha$	$h_{1-}^{\#2} \alpha$
$h_{1-}^{\#1} + \alpha$	0	$-\sqrt{5} \alpha^2 \beta^2$
$h_{1-}^{\#2} + \alpha$	$-\sqrt{5} \alpha^2 \beta^2$	$4 \alpha^2 (-\beta^2 + k^2)$

	$\mathcal{F}_{1-}^{\#1} \alpha$	$\mathcal{F}_{1-}^{\#2} \alpha$
$\mathcal{F}_{1-}^{\#1} + \alpha$	$\frac{4(\beta k)(\beta + k)}{5 \alpha^2 \beta^4}$	$-\frac{1}{\sqrt{5} \alpha^2 \beta^2}$
$\mathcal{F}_{1-}^{\#2} + \alpha$	$-\frac{1}{\sqrt{5} \alpha^2 \beta^2}$	0

$h_{2+}^{\#1} + \alpha \beta$	$h_{2+}^{\#1} \alpha \beta$
$\alpha^2 \beta^2$	

$\mathcal{F}_{2+}^{\#1} + \alpha \beta$	$\mathcal{F}_{2+}^{\#1} \alpha \beta$
$\frac{1}{\alpha^2 \beta^2}$	

	$h_{0+}^{\#1}$	$h_{0+}^{\#2}$	$\phi_{0+}^{\#1}$
$h_{0+}^{\#1} +$	$\frac{1}{2} \alpha^2 (-4 \beta^2 + k^2)$	$\frac{3}{2} \alpha^2 (-2 \beta^2 + k^2)$	$\frac{1}{2} i \alpha \beta k$
$h_{0+}^{\#2} +$	$\frac{3}{2} \alpha^2 (-2 \beta^2 + k^2)$	$\frac{1}{2} \alpha^2 (-4 \beta^2 + 9 k^2)$	$\frac{1}{2} i \alpha \beta k$
$\phi_{0+}^{\#1} +$	$-\frac{1}{2} i \alpha \beta k$	$-\frac{1}{2} i \alpha \beta k$	$2 \beta^2 - \frac{k^2}{2}$

	$\mathcal{F}_{3-}^{\#1} \alpha \beta \chi$
$\mathcal{F}_{3-}^{\#1} + \alpha \beta \chi$	$\frac{1}{\alpha^2 (\beta^2 - k^2)}$

	$\mathcal{F}_{0+}^{\#1}$	$\mathcal{F}_{0+}^{\#2}$	$\rho_{0+}^{\#1}$
$\mathcal{F}_{0+}^{\#1} +$	$\frac{16 \beta^4 - 39 \beta^2 k^2 + 9 k^4}{40 \alpha^2 \beta^6}$	$-\frac{24 \beta^4 - 17 \beta^2 k^2 + 3 k^4}{40 \alpha^2 \beta^6}$	$\frac{i k (\beta^2 + 3 k^2)}{20 \alpha \beta^5}$
$\mathcal{F}_{0+}^{\#2} +$	$-\frac{24 \beta^4 - 17 \beta^2 k^2 + 3 k^4}{40 \alpha^2 \beta^6}$	$\frac{16 \beta^4 - 7 \beta^2 k^2 + k^4}{40 \alpha^2 \beta^6}$	$\frac{i (\beta - k) k (\beta + k)}{20 \alpha \beta^5}$
$\rho_{0+}^{\#1} +$	$-\frac{i k (\beta^2 + 3 k^2)}{20 \alpha \beta^5}$	$\frac{i k (-\beta^2 + k^2)}{20 \alpha \beta^5}$	$\frac{5 \beta^2 + k^2}{10 \beta^4}$

	$h_{3-}^{\#1} \alpha \beta \chi$
$h_{3-}^{\#1} + \alpha \beta \chi$	$\alpha^2 (\beta - k) (\beta + k)$

Unitarity conditions

 $\alpha < 0 \parallel \alpha > 0 \ \&\& \ \beta < 0 \parallel \beta > 0$

(No massless particles)

Lagrangian density

$$2 \beta^2 \phi^2 + \alpha^2 \beta^2 h_{\alpha \mu \nu} h^{\alpha \mu \nu} - 3 \alpha^2 \beta^2 h_{\alpha}^{\alpha \mu} h_{\mu}^{\alpha \nu} +$$

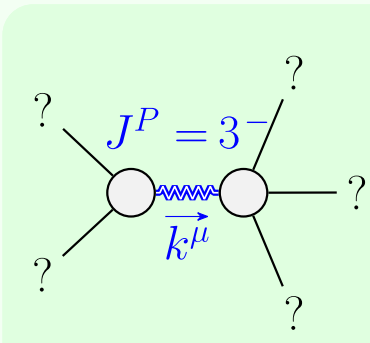
$$\frac{1}{2} \phi \partial_{\alpha} \partial^{\alpha} \phi + \alpha \beta h_{\alpha \mu}^{\mu} \partial^{\alpha} \phi - \frac{3}{2} \alpha^2 h_{\alpha}^{\alpha \mu} \partial_{\rho} \partial_{\mu} h_{\nu}^{\nu \rho} -$$

$$3 \alpha^2 h^{\alpha \mu \nu} \partial_{\rho} \partial_{\nu} h_{\alpha \mu}^{\rho} + 6 \alpha^2 h_{\alpha}^{\alpha \mu} \partial_{\rho} \partial_{\nu} h_{\mu}^{\nu \rho} +$$

$$\alpha^2 h^{\alpha \mu \nu} \partial_{\rho} \partial^{\rho} h_{\alpha \mu \nu} - 3 \alpha^2 h_{\alpha}^{\alpha \mu} \partial_{\rho} \partial^{\rho} h_{\mu}^{\alpha \nu}$$

Added source term: $\phi \rho + h^{\alpha \beta \chi} \mathcal{F}_{\alpha \beta \chi}$

(No source constraints)



Massive particle	
Pole residue:	$\frac{1}{\alpha^2} > 0$
Polarisations:	7
Square mass:	$\beta^2 > 0$
Spin:	3
Parity:	Odd