

Lagrangian density

$$\frac{1}{2} \alpha \partial_\beta h^\chi_\chi \partial^\beta h^\alpha_\alpha + \beta \partial_\alpha h^{\alpha\beta} \partial_\chi h^\chi_\beta - \alpha \partial^\beta h^\alpha_\alpha \partial_\chi h^\chi_\beta - \frac{1}{2} \alpha \partial_\chi h_{\alpha\beta} \partial^\chi h^{\alpha\beta}$$

Added source term:
$$h^{\alpha\beta} \mathcal{T}_{\alpha\beta}$$

(No source constraints)

$$h^{\#1}_{0+} + h^{\#2}_{0+}$$

$$h^{\#1}_{0+} + h^{\#2}_{0+}$$

αk^2	0
0	$(-\alpha + \beta) k^2$

$$h^{\#1}_{1+} + h^{\#2}_{1+}$$

$$h^{\#1}_{1+} + h^{\#2}_{1+}$$

$\frac{1}{2} (-\alpha + \beta) k^2$

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

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

$-\frac{2}{\alpha k^2}$

$$h^{\#1}_{2+} + \alpha\beta$$

$$h^{\#1}_{2+} + \alpha\beta$$

$-\frac{\alpha k^2}{2}$

$$\mathcal{T}^{\#1}_{1+} + h^{\#1}_{1+}$$

$$\mathcal{T}^{\#1}_{1+} + h^{\#1}_{1+}$$

$-\frac{2}{(\alpha\beta)k^2}$

$$\mathcal{T}^{\#1}_{0+} + \mathcal{T}^{\#2}_{0+}$$

$$\mathcal{T}^{\#1}_{0+} + \mathcal{T}^{\#2}_{0+}$$

$\frac{1}{\alpha k^2}$	0
$\frac{1}{\alpha(\beta)k^2}$	0

Quartic pole	$0 < \frac{6\alpha + 3\beta - \sqrt{3} \sqrt{12\alpha^2 + 12\alpha\beta + 19\beta^2} + 64(\alpha - \beta)^2 p^2}{\alpha(\alpha - \beta)} \&\& \frac{6\alpha + 3\beta - \sqrt{3} \sqrt{12\alpha^2 + 12\alpha\beta + 19\beta^2} + 64(\alpha - \beta)^2 p^2}{\alpha(\alpha - \beta)} > 0$
Pole residue:	
Polarisations:	1

Quartic pole	$0 < \frac{6\alpha + 3\beta + \sqrt{3} \sqrt{12\alpha^2 + 12\alpha\beta + 19\beta^2} + 64(\alpha - \beta)^2 p^2}{\alpha(\alpha - \beta)} \&\& \frac{6\alpha + 3\beta + \sqrt{3} \sqrt{12\alpha^2 + 12\alpha\beta + 19\beta^2} + 64(\alpha - \beta)^2 p^2}{\alpha(\alpha - \beta)} > 0$
Pole residue:	
Polarisations:	1

(No massive particles)

Unitarity conditions

(Unitarity is demonstrably impossible)

Quadratic pole	$-2\alpha + \beta + \sqrt{20\alpha^2 - 36\alpha\beta + 17\beta^2} > 0$
Pole residue:	$\alpha(\alpha - \beta)$
Polarisations:	1

Quadratic pole	$-2\alpha + \beta + \sqrt{20\alpha^2 - 36\alpha\beta + 17\beta^2} > 0$
Pole residue:	$\alpha^2 - \alpha\beta$
Polarisations:	1

Hexic pole	$0 < \frac{2\alpha + \beta}{\alpha^2 - \alpha\beta} \&\& \frac{2\alpha + \beta}{\alpha^2 - \alpha\beta} > 0$
Pole residue:	
Polarisations:	1

Quartic pole	$0 < \frac{\beta}{\alpha^2 - \alpha\beta} \&\& \frac{\beta}{\alpha^2 - \alpha\beta} > 0$
Pole residue:	
Polarisations:	2

Quadratic pole	$-\frac{1}{\alpha} + \frac{1}{-\alpha + \beta} > 0$
Pole residue:	$-\alpha + \beta$
Polarisations:	2

Quadratic pole	$\frac{1}{\alpha} + \frac{5}{\alpha - \beta} > 0$
Pole residue:	$\alpha - \beta$
Polarisations:	1

Quadratic pole	
Pole residue:	$-\frac{1}{\alpha} + \frac{5}{-\alpha + \beta} > 0$
Polarisations:	1

Quadratic pole	$\frac{1}{\alpha} + \frac{1}{\alpha - \beta} > 0$
Pole residue:	$\alpha - \beta$
Polarisations:	2

Quadratic pole	$-\frac{1}{\alpha} > 0$
Pole residue:	α
Polarisations:	2