

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)

$$\tau_{0+}^{\#1} + \tau_{0+}^{\#2} +$$

$\tau_{0+}^{\#1}$	$\tau_{0+}^{\#2}$
$\frac{1}{\alpha k^2}$	0
0	$\frac{1}{(-\alpha+\beta)k^2}$

$$h_{0+}^{\#1} + h_{0+}^{\#2} +$$

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

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

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

$\tau_{2+}^{\#1}$
$-\frac{2}{\alpha k^2}$

$$\tau_{1-}^{\#1} + \alpha$$

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

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

$h_{2+}^{\#1}$
$-\frac{\alpha k^2}{2}$

Quadratic pole

Pole residue: $\frac{1}{\alpha} + \frac{1}{\alpha-\beta} > 0$

Polarisations: 2

Quadratic pole

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

Polarisations: 1

Quartic pole

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

Polarisations: 2

Quadratic pole

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

Polarisations: 1

Hexic pole

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

Polarisations: 1

Quartic pole

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

Polarisations: 1

Quadratic pole

Pole residue: $-\frac{1}{\alpha} + \frac{1}{-\alpha+\beta} > 0$

Polarisations: 2

Quadratic pole

Pole residue: $-\frac{1}{\alpha} > 0$

Polarisations: 2

Quadratic pole

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

Polarisations: 1

Quadratic pole

Pole residue: $-\frac{2\alpha-\beta+\sqrt{20\alpha^2-36\alpha\beta+17\beta^2}}{\alpha^2-\alpha\beta} > 0$

Polarisations: 1

Quartic pole

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

Polarisations: 1

Unitarity conditions

(Unitarity is demonstrably impossible)

(No massive particles)