

## Lagrangian density

$$\beta h_{\alpha\beta} h^{\alpha\beta} - \gamma h^\alpha_\alpha h^\beta_\beta +$$

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

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

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

(No source constraints)

	$\mathcal{T}_{0+}^{\#1}$	$\mathcal{T}_{0+}^{\#2}$
$\mathcal{T}_{0+}^{\#1} +$	$\frac{1}{\frac{\beta(\beta-4\gamma)}{\beta-\gamma} + \alpha k^2}$	$\frac{\sqrt{3}\gamma}{\beta(\beta-4\gamma) + \alpha(\beta-\gamma)k^2}$
$\mathcal{T}_{0+}^{\#2} +$	$\frac{\sqrt{3}\gamma}{\beta(\beta-4\gamma) + \alpha(\beta-\gamma)k^2}$	$\frac{1}{\beta + \gamma(-1 - \frac{3\gamma}{\beta-3\gamma + \alpha k^2})}$

	$h_{0+}^{\#1}$	$h_{0+}^{\#2}$
$h_{0+}^{\#1} +$	$\beta - 3\gamma + \alpha k^2$	$-\sqrt{3}\gamma$
$h_{0+}^{\#2} +$	$-\sqrt{3}\gamma$	$\beta - \gamma$

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

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

$\beta$
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$h_{1-}^{\#1}$

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

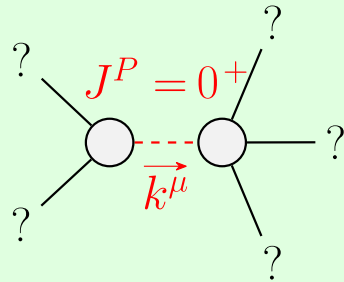
$\frac{1}{\beta - \frac{\alpha k^2}{2}}$
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$\mathcal{T}_{2+}^{\#1}$

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

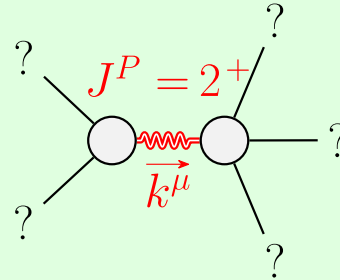
$\beta - \frac{\alpha k^2}{2}$
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$h_{2+}^{\#1}$



Massive particle

Pole residue:	$\frac{\beta^2 - 2\beta\gamma + 4\gamma^2}{\alpha(\beta-\gamma)^2} > 0$
Polarisations:	1
Square mass:	$-\frac{\beta(\beta-4\gamma)}{\alpha(\beta-\gamma)} > 0$
Spin:	0
Parity:	Even



Massive particle

Pole residue:	$-\frac{2}{\alpha} > 0$
Polarisations:	5
Square mass:	$\frac{2\beta}{\alpha} > 0$
Spin:	2
Parity:	Even

Unitarity conditions

(Unitarity is demonstrably impossible)

(No massless particles)