

Wave operator and propagator

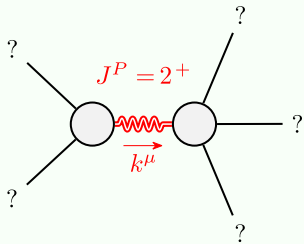
Quadratic (free) action

$$\mathcal{S} ==$$

$$\iiint (\beta (h_{\alpha\beta} h^{\alpha\beta} - h^\alpha_\alpha h^\beta_\beta) + h^{\alpha\beta} \mathcal{T}_{\alpha\beta} + \frac{1}{2} \alpha (\partial_\beta h^\chi_\chi \partial^\beta h^\alpha_\alpha + 2 \partial_\alpha h^{\alpha\beta} \partial_\chi h^\chi_\beta - 2 \partial^\beta h^\alpha_\alpha \partial_\chi h^\chi_\beta - \partial_\chi h^\alpha_\alpha \partial^\chi h^{\alpha\beta})) [t, x, y, z] dz dy dx dt$$

Diagram illustrating the construction of the 2x2 block matrix for the second iteration of the block Gauss-Seidel method. The matrix is partitioned into four blocks: top-left (red), top-right (blue), bottom-left (red), and bottom-right (red). The top-left block is updated with the new values of $h_{0+}^{#1}$ and $h_{0+}^{#2}$. The top-right block is updated with the new values of $h_{2+}^{#1}$ and $h_{2+}^{#2}$. The bottom-left block is updated with the new values of $h_{1-}^{#1}$ and $h_{1-}^{#2}$. The bottom-right block is updated with the new values of $h_{1-}^{#1}$ and $h_{1-}^{#2}$. The diagram also shows the source constraints for the first iteration, which are used to initialize the matrix.

Massive and massless spectra



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

(No massless particles)

Unitarity conditions

$$\alpha < 0 \ \&\& \ \beta < 0$$