

Particle spectrograph

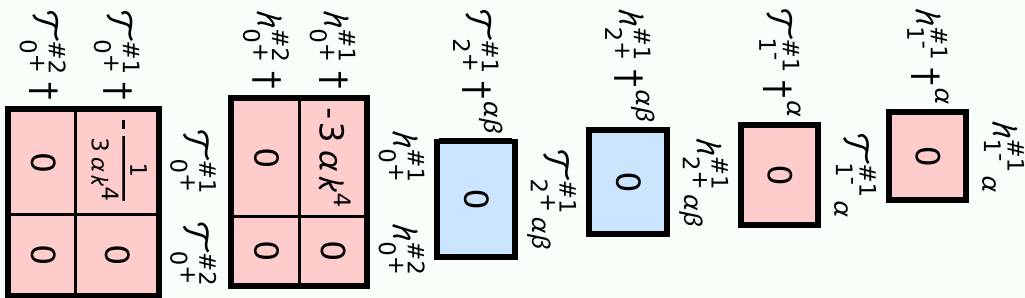
Wave operator and propagator

Source constraints		
SO(3) irreps	Fundamental fields	Multiplicities
$\mathcal{T}_{0^+}^{\#2} == 0$	$\partial_\beta \partial_\alpha \mathcal{T}^{\alpha\beta} == 0$	1
$\mathcal{T}_1^{\#1\alpha} == 0$	$\partial_\chi \partial_\beta \partial^\alpha \mathcal{T}^{\beta\chi} == \partial_\chi \partial^\chi \partial_\beta \mathcal{T}^{\alpha\beta}$	3
$\mathcal{T}_{2^+}^{\#1\alpha\beta} == 0$	$2 \partial_\delta \partial_\chi \partial^\beta \partial^\alpha \mathcal{T}^{\chi\delta} + \partial_\delta \partial^\delta \partial^\beta \partial^\alpha \mathcal{T}^\chi_\chi + 3 \partial_\delta \partial^\delta \partial_\chi \partial^\chi \mathcal{T}^{\alpha\beta} +$ $\eta^{\alpha\beta} \partial_\epsilon \partial^\epsilon \partial_\delta \partial_\chi \mathcal{T}^{\chi\delta} == 3 \partial_\delta \partial^\delta \partial_\chi \partial^\alpha \mathcal{T}^{\beta\chi} +$ $3 \partial_\delta \partial^\delta \partial_\chi \partial^\beta \mathcal{T}^{\alpha\chi} + \eta^{\alpha\beta} \partial_\epsilon \partial^\epsilon \partial_\delta \partial^\delta \mathcal{T}^\chi_\chi$	5
Total constraints/gauge generators:		9

Quadratic (free) action

$$\mathcal{S} ==$$

$$\iiint\int(h^{\alpha\beta}\mathcal{T}_{\alpha\beta}-\alpha(\partial_\beta\partial_\alpha h^{\alpha\beta}\partial_\delta\partial_\chi h^{\chi\delta}+\partial_\beta\partial^\beta h^\alpha{}_\alpha(-2\partial_\delta\partial_\chi h^{\chi\delta}+\partial_\delta\partial^\delta h^\chi{}_\chi)))[t,\chi,y,z]dzdydxdt$$



Massive and massless spectra

(No massless particles)

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Unitarity conditions

True