

# Particle spectrograph

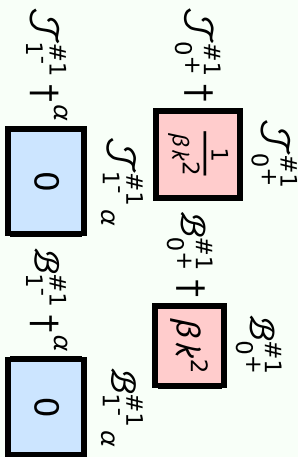
## Wave operator and propagator

Source constraints

SO(3) irreps	Fundamental fields	Multiplicities
$\mathcal{J}_{1^{-1}}^{\#1\alpha} == 0$	$\partial_\beta \partial^\alpha \mathcal{J}^\beta == \partial_\beta \partial^\beta \mathcal{J}^\alpha$	3
Total constraints/gauge generators:		3

Quadratic (free) action

$$\mathcal{S} = \iiint (\mathcal{B}^\alpha \mathcal{J}_\alpha + \beta \partial_\alpha \mathcal{B}^\alpha \partial_\beta \mathcal{B}^\beta) [t, x, y, z] dz dy dx dt$$



## Massive and massless spectra

(No massless particles)

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## Unitarity conditions

True