

# Field kinematics

| Momentum | Norm                 | Frame                      |
|----------|----------------------|----------------------------|
| $k^\mu$  | $k^2 == k_\mu k^\mu$ | $n^\mu == \frac{k^\mu}{k}$ |

## Fundamental fields

| Fundamental field | Symmetries                          | Decomposition in SO(3) irreps  | Source                      |
|-------------------|-------------------------------------|--|-----------------------------|
| $h_{\alpha\beta}$ | StrongGenSet[{1, 2}, GenSet[(1,2)]] | $\frac{1}{3} \eta_{\alpha\beta} h_{0+}^{\#1} + h_{2+}^{\#1}{}_{\alpha\beta} + h_{1-}^{\#1}{}_{\beta} n_{\alpha} + h_{1-}^{\#1}{}_{\alpha} n_{\beta} - \frac{1}{3} h_{0+}^{\#1} n_{\alpha} n_{\beta} + h_{0+}^{\#2} n_{\alpha} n_{\beta}$ | $\mathcal{T}_{\alpha\beta}$ |

## SO(3) irreps

| SO(3) irrep                    | Symmetries                          | Expansion in fundamental field   | Source                                   |
|--------------------------------|-------------------------------------|--|--|
| $h_{0+}^{\#1}$                 | StrongGenSet[{}], GenSet[]          | $h^{\alpha}{}_{\alpha} - h_{\alpha\beta} n^{\alpha} n^{\beta}$   | $\mathcal{T}_{0+}^{\#1}$                 |
| $h_{0+}^{\#2}$                 | StrongGenSet[{}], GenSet[]          | $h_{\alpha\beta} n^{\alpha} n^{\beta}$   | $\mathcal{T}_{0+}^{\#2}$                 |
| $h_{2+}^{\#1}{}_{\alpha\beta}$ | StrongGenSet[{1, 2}, GenSet[(1,2)]] | $h_{\alpha\beta} - \frac{1}{3} \eta_{\alpha\beta} h^{\chi}{}_{\chi} + \frac{1}{3} h^{\chi}{}_{\chi} n_{\alpha} n_{\beta} - h_{\beta\chi} n_{\alpha} n^{\chi} -$<br>$h_{\alpha\chi} n_{\beta} n^{\chi} + \frac{1}{3} \eta_{\alpha\beta} h_{\chi\delta} n^{\chi} n^{\delta} + \frac{2}{3} h_{\chi\delta} n_{\alpha} n_{\beta} n^{\chi} n^{\delta}$ | $\mathcal{T}_{2+}^{\#1}{}_{\alpha\beta}$ |
| $h_{1-}^{\#1}{}_{\alpha}$      | StrongGenSet[{}], GenSet[]          | $h_{\alpha\beta} n^{\beta} - h_{\beta\chi} n_{\alpha} n^{\beta} n^{\chi}$  | $\mathcal{T}_{1-}^{\#1}{}_{\alpha}$      |