

# Field kinematics

Basic conventions				
Minkowski metric tensor	Totally antisymmetric tensor	Momentum	Norm	Frame
$\eta_{\mu\nu}$	$\epsilon \eta_{\mu\nu\rho\sigma}$	$k^\mu$	$k^2 == k_\mu k^\mu$	$n^\mu == \frac{k^\mu}{k}$

## Fundamental fields

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

## SO(3) irreps

SO(3) irrep	Symmetries	Expansion in terms of the fundamental field	Source
$h_{0^+}^{\#1}$	Symmetry[0, $h_{0^+}^{\#1}$ , {}, StrongGenSet[{}, GenSet[]]]	$h^\alpha_\alpha - h_{\alpha\beta} n^\alpha n^\beta$	$\mathcal{T}_{0^+}^{\#1}$
$h_{0^+}^{\#2}$	Symmetry[0, $h_{0^+}^{\#2}$ , {}, StrongGenSet[{}, GenSet[]]]	$h_{\alpha\beta} n^\alpha n^\beta$	$\mathcal{T}_{0^+}^{\#2}$
$h_{2^+ \alpha\beta}^{\#1}$	Symmetry[2, $h_{2^+}^{\#1 \bullet 1 \bullet 2}$ , {●1 → -a, ●2 → -b}, StrongGenSet[{1, 2}, GenSet[(1,2)]]]	$h_{\alpha\beta} - \frac{1}{3} \eta_{\alpha\beta} h^X_\chi + \frac{1}{3} h^X_\chi n_\alpha n_\beta - h_{\beta\chi} n_\alpha n^\chi - h_{\alpha\chi} n_\beta n^\chi + \frac{1}{3} \eta_{\alpha\beta} h_{\chi\delta} n^\chi n^\delta + \frac{2}{3} h_{\chi\delta} n_\alpha n_\beta n^\chi n^\delta$	$\mathcal{T}_{2^+ \alpha\beta}^{\#1}$
$h_{1^- \alpha}^{\#1}$	Symmetry[1, $h_{1^-}^{\#1 \bullet 1}$ , {●1 → -a}, StrongGenSet[{}, GenSet[]]]	$h_{\alpha\beta} n^\beta - h_{\beta\chi} n_\alpha n^\beta n^\chi$	$\mathcal{T}_{1^- \alpha}^{\#1}$