Field kinematics

Basic conventions

Minkowski metric tensor	Totally antisymmetric tensor	Four-momentum	Four-momentum norm	Massive rest-frame
$\eta_{\mu\nu}$	$\epsilon\,\eta_{\mu\nu\rho\sigma}$	k^μ	$k^2 == k_\mu\ k^\mu$	$n^\mu == \frac{k^\mu}{k}$

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)]]]	$h_{\alpha\beta} - \frac{1}{3}\ \eta_{\alpha\beta}\ h^\chi{}_\chi + \frac{1}{3}\ h^\chi{}_\chi\ n_\alpha\ n_\beta - h_{\beta\chi}\ n_\alpha\ n^\chi - h_{\alpha\chi}\ n_\beta\ n^\chi + \frac{1}{3}\ \eta_{\alpha\beta}\ h_{\chi\delta}\ n^\chi\ n^\delta + \frac{2}{3}\ h_{\chi\delta}\ n_\alpha\ n_\beta\ n^\chi\ n^\delta$	$\mathcal{T}_{2^+\,\alpha\beta}^{\#1}$
$h_{1^-\,\alpha}^{\#1}$	Symmetry[1, $h_{1^-}^{\#1\,\bullet 1}$, {●1 → -a}, StrongGenSet[{}, GenSet[]]]	$h_{\alpha\beta}\ n^\beta - h_{\beta\chi}\ n_\alpha\ n^\beta\ n^\chi$	$\mathcal{T}_{1^-\,\alpha}^{\#1}$