Field kinematics

Basic conventions

Minkowski metric tensor	Totally antisymmetric tensor	Momentum	Norm	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, $h^{\bullet 1\bullet 2}$, {$\bullet 1 \to$ -a, $\bullet 2 \to$ -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, $h_{2^+}^{\#1\bullet 1\bullet 2}$, {$\bullet 1 \to$ -a, $\bullet 2 \to$ -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, $h_{1^-}^{\#1\bullet 1}$, {$\bullet 1 \to$ -a}, StrongGenSet[{}, GenSet[]]]	$h_{\alpha\beta}\ n^{\beta} - h_{\beta\chi}\ n_{\alpha}\ n^{\beta}\ n^{\chi}$	$\mathcal{T}_{1^-\,\alpha}^{\#1}$