

Fundamental field	Symmetries	Decomposition into SO(3) irrep(s)	Source
$h_{\alpha\beta\chi}$	Symmetry[3, $h^{\bullet 1\bullet 2\bullet 3}$ , {●1 → -a, ●2 → -b, ●3 → -c}, StrongGenSet[{1, 2, 3}, GenSet[(1,2), (2,3)]]]	$h_{3^{-}\alpha\beta\chi}^{\#1} + \frac{1}{15} \eta_{\beta\chi} h_{1^{-}\alpha}^{\#2} + \frac{1}{15} \eta_{\alpha\chi} h_{1^{-}\beta}^{\#2} + \frac{1}{15} \eta_{\alpha\beta} h_{1^{-}\chi}^{\#2} + \frac{1}{9} \eta_{\beta\chi} h_{0^{+}}^{\#2} n_{\alpha} + \frac{1}{3} h_{2^{+}\beta\chi}^{\#1} n_{\alpha} +$ $\frac{1}{9} \eta_{\alpha\chi} h_{0^{+}}^{\#2} n_{\beta} + \frac{1}{3} h_{2^{+}\alpha\chi}^{\#1} n_{\beta} - \frac{1}{15} h_{1^{-}\chi}^{\#2} n_{\alpha} n_{\beta} + \frac{1}{3} h_{1^{-}\chi}^{\#1} n_{\alpha} n_{\beta} + \frac{1}{9} \eta_{\alpha\beta} h_{0^{+}}^{\#2} n_{\chi} + \frac{1}{3} h_{2^{+}\alpha\beta}^{\#1} n_{\chi} -$ $\frac{1}{15} h_{1^{-}\beta}^{\#2} n_{\alpha} n_{\chi} + \frac{1}{3} h_{1^{-}\beta}^{\#1} n_{\alpha} n_{\chi} - \frac{1}{15} h_{1^{-}\alpha}^{\#2} n_{\beta} n_{\chi} + \frac{1}{3} h_{1^{-}\alpha}^{\#1} n_{\beta} n_{\chi} - \frac{1}{3} h_{0^{+}}^{\#2} n_{\alpha} n_{\beta} n_{\chi} + h_{0^{+}}^{\#1} n_{\alpha} n_{\beta} n_{\chi}$	$\mathcal{F}_{\alpha\beta\chi}$
SO(3) irrep	Symmetries	Expansion in terms of the fundamental field	Source SO(3) irrep
$h_{0^{+}}^{\#1}$	Symmetry[0, $h_{0^{+}}^{\#1}$ , {}, StrongGenSet[{}], GenSet[]]	$h_{\alpha\beta\chi} n^{\alpha} n^{\beta} n^{\chi}$	$\mathcal{F}_{0^{+}}^{\#1}$
$h_{0^{+}}^{\#2}$	Symmetry[0, $h_{0^{+}}^{\#2}$ , {}, StrongGenSet[{}], GenSet[]]	$3 h_{\alpha}^{\beta}{}_{\beta} n^{\alpha} - 3 h_{\alpha\beta\chi} n^{\alpha} n^{\beta} n^{\chi}$	$\mathcal{F}_{0^{+}}^{\#2}$
$h_{1^{-}\alpha}^{\#1}$	Symmetry[1, $h_{1^{-}}^{\#1\bullet 1}$ , {●1 → -a}, StrongGenSet[{}], GenSet[]]	$3 h_{\alpha\beta\chi} n^{\beta} n^{\chi} - 3 h_{\beta\chi\delta} n_{\alpha} n^{\beta} n^{\chi} n^{\delta}$	$\mathcal{F}_{1^{-}\alpha}^{\#1}$
$h_{1^{-}\alpha}^{\#2}$	Symmetry[1, $h_{1^{-}}^{\#2\bullet 1}$ , {●1 → -a}, StrongGenSet[{}], GenSet[]]	$3 h_{\alpha}^{\beta}{}_{\beta} - 3 h_{\beta}^{\chi}{}_{\chi} n_{\alpha} n^{\beta} - 3 h_{\alpha\beta\chi} n^{\beta} n^{\chi} + 3 h_{\beta\chi\delta} n_{\alpha} n^{\beta} n^{\chi} n^{\delta}$	$\mathcal{F}_{1^{-}\alpha}^{\#2}$
$h_{2^{+}\alpha\beta}^{\#1}$	Symmetry[2, $h_{2^{+}}^{\#1\bullet 1\bullet 2}$ , {●1 → -a, ●2 → -b}, StrongGenSet[{1, 2}, GenSet[(1,2)]]]	$3 h_{\alpha\beta\chi} n^{\chi} - \eta_{\alpha\beta} h_{\chi}^{\delta}{}_{\delta} n^{\chi} + h_{\chi}^{\delta}{}_{\delta} n_{\alpha} n_{\beta} n^{\chi} - 3 h_{\beta\chi\delta} n_{\alpha} n^{\chi} n^{\delta} - 3 h_{\alpha\chi\delta} n_{\beta} n^{\chi} n^{\delta} + \eta_{\alpha\beta} h_{\chi\delta\epsilon} n^{\chi} n^{\delta} n^{\epsilon} + 2 h_{\chi\delta\epsilon} n_{\alpha} n_{\beta} n^{\chi} n^{\delta} n^{\epsilon}$	$\mathcal{F}_{2^{+}\alpha\beta}^{\#1}$
$h_{3^{-}\alpha\beta\chi}^{\#1}$	Symmetry[3, $h_{3^{-}}^{\#1\bullet 1\bullet 2\bullet 3}$ , {●1 → -a, ●2 → -b, ●3 → -c}, StrongGenSet[{1, 2, 3}, GenSet[(1,2), (2,3)]]]	$h_{\alpha\beta\chi} - \frac{1}{5} \eta_{\beta\chi} h_{\alpha}^{\delta}{}_{\delta} - \frac{1}{5} \eta_{\alpha\chi} h_{\beta}^{\delta}{}_{\delta} - \frac{1}{5} \eta_{\alpha\beta} h_{\chi}^{\delta}{}_{\delta} + \frac{1}{5} h_{\chi}^{\delta}{}_{\delta} n_{\alpha} n_{\beta} + \frac{1}{5} h_{\beta}^{\delta}{}_{\delta} n_{\alpha} n_{\chi} + \frac{1}{5} h_{\alpha}^{\delta}{}_{\delta} n_{\beta} n_{\chi} - h_{\beta\chi\delta} n_{\alpha} n^{\delta} + \frac{1}{5} \eta_{\beta\chi} h_{\delta}^{\epsilon}{}_{\epsilon} n_{\alpha} n^{\delta} -$ $h_{\alpha\chi\delta} n_{\beta} n^{\delta} + \frac{1}{5} \eta_{\alpha\chi} h_{\delta}^{\epsilon}{}_{\epsilon} n_{\beta} n^{\delta} - h_{\alpha\beta\delta} n_{\chi} n^{\delta} + \frac{1}{5} \eta_{\alpha\beta} h_{\delta}^{\epsilon}{}_{\epsilon} n_{\chi} n^{\delta} - \frac{3}{5} h_{\delta}^{\epsilon}{}_{\epsilon} n_{\alpha} n_{\beta} n_{\chi} n^{\delta} + \frac{1}{5} \eta_{\beta\chi} h_{\alpha\delta\epsilon} n^{\delta} n^{\epsilon} +$ $\frac{1}{5} \eta_{\alpha\chi} h_{\beta\delta\epsilon} n^{\delta} n^{\epsilon} + \frac{1}{5} \eta_{\alpha\beta} h_{\chi\delta\epsilon} n^{\delta} n^{\epsilon} + \frac{4}{5} h_{\chi\delta\epsilon} n_{\alpha} n_{\beta} n^{\delta} n^{\epsilon} + \frac{4}{5} h_{\beta\delta\epsilon} n_{\alpha} n_{\chi} n^{\delta} n^{\epsilon} + \frac{4}{5} h_{\alpha\delta\epsilon} n_{\beta} n_{\chi} n^{\delta} n^{\epsilon} -$ $\frac{1}{5} \eta_{\beta\chi} h_{\delta\epsilon\phi} n_{\alpha} n^{\delta} n^{\epsilon} n^{\phi} - \frac{1}{5} \eta_{\alpha\chi} h_{\delta\epsilon\phi} n_{\beta} n^{\delta} n^{\epsilon} n^{\phi} - \frac{1}{5} \eta_{\alpha\beta} h_{\delta\epsilon\phi} n_{\chi} n^{\delta} n^{\epsilon} n^{\phi} - \frac{2}{5} h_{\delta\epsilon\phi} n_{\alpha} n_{\beta} n_{\chi} n^{\delta} n^{\epsilon} n^{\phi}$	$\mathcal{F}_{3^{-}\alpha\beta\chi}^{\#1}$