

Fundamental field	Symmetries	Decomposition into SO(3) irrep(s)	Source
$\omega_{\alpha\beta\chi}$	Symmetry[3, $\omega^{\bullet 1\bullet 2\bullet 3}$, {●1 → -a, ●2 → -b, ●3 → -c}, StrongGenSet[{1, 2}, GenSet[-(1,2)]]]	$-\frac{1}{2}\eta_{\beta\chi}\omega_{1^{-}\alpha}^{\#1}+\frac{1}{2}\eta_{\alpha\chi}\omega_{1^{-}\beta}^{\#1}+\frac{4}{3}\omega_{2^{-}\alpha\beta\chi}^{\#1}+\frac{1}{3}\eta_{\beta\chi}\omega_{0^{+}}^{\#1}n_{\alpha}+\omega_{1^{+}\beta\chi}^{\#1}n_{\alpha}+\omega_{2^{+}\beta\chi}^{\#1}n_{\alpha}-\frac{1}{3}\eta_{\alpha\chi}\omega_{0^{+}}^{\#1}n_{\beta}-$ $\omega_{1^{+}\alpha\chi}^{\#1}n_{\beta}-\omega_{2^{+}\alpha\chi}^{\#1}n_{\beta}+\omega_{1^{+}\alpha\beta}^{\#2}n_{\chi}-\frac{1}{2}\omega_{1^{-}\beta}^{\#1}n_{\alpha}n_{\chi}-\omega_{1^{-}\beta}^{\#2}n_{\alpha}n_{\chi}+\frac{1}{2}\omega_{1^{-}\alpha}^{\#1}n_{\beta}n_{\chi}+\omega_{1^{-}\alpha}^{\#2}n_{\beta}n_{\chi}-\frac{1}{6}\in\eta_{\alpha\beta\chi\delta}\omega_{0^{-}}^{\#1}n^{\delta}$	$\sigma_{\alpha\beta\chi}$
SO(3) irrep	Symmetries	Expansion in terms of the fundamental field	Source SO(3) irrep
$\omega_{0^{+}}^{\#1}$	Symmetry[0, $\omega_{0^{+}}^{\#1}$, {}, StrongGenSet[{}, GenSet[]]]	$\omega_{\alpha}^{\beta}{}_{\beta}n^{\alpha}$	$\sigma_{0^{+}}^{\#1}$
$\omega_{0^{-}}^{\#1}$	Symmetry[0, $\omega_{0^{-}}^{\#1}$, {}, StrongGenSet[{}, GenSet[]]]	$-\in\eta_{\alpha\beta\chi\delta}\omega^{\beta\chi\delta}n^{\alpha}$	$\sigma_{0^{-}}^{\#1}$
$\omega_{1^{+}\alpha\beta}^{\#1}$	Symmetry[2, $\omega_{1^{+}}^{\#1\bullet 1\bullet 2}$, {●1 → -a, ●2 → -b}, StrongGenSet[{1, 2}, GenSet[-(1,2)]]]	$-\frac{1}{2}\omega_{\alpha\chi\beta}n^{\chi}+\frac{1}{2}\omega_{\beta\chi\alpha}n^{\chi}-\frac{1}{2}\omega_{\beta\chi\delta}n_{\alpha}n^{\chi}n^{\delta}+\frac{1}{2}\omega_{\alpha\chi\delta}n_{\beta}n^{\chi}n^{\delta}$	$\sigma_{1^{+}\alpha\beta}^{\#1}$
$\omega_{1^{+}\alpha\beta}^{\#2}$	Symmetry[2, $\omega_{1^{+}}^{\#2\bullet 1\bullet 2}$, {●1 → -a, ●2 → -b}, StrongGenSet[{1, 2}, GenSet[-(1,2)]]]	$\omega_{\alpha\beta\chi}n^{\chi}+\omega_{\beta\chi\delta}n_{\alpha}n^{\chi}n^{\delta}-\omega_{\alpha\chi\delta}n_{\beta}n^{\chi}n^{\delta}$	$\sigma_{1^{+}\alpha\beta}^{\#2}$
$\omega_{1^{-}\alpha}^{\#1}$	Symmetry[1, $\omega_{1^{-}}^{\#1\bullet 1}$, {●1 → -a}, StrongGenSet[{}, GenSet[]]]	$-\omega_{\alpha}^{\beta}{}_{\beta}+\omega_{\beta}^{\chi}{}_{\chi}n_{\alpha}n^{\beta}+\omega_{\alpha\beta\chi}n^{\beta}n^{\chi}$	$\sigma_{1^{-}\alpha}^{\#1}$
$\omega_{1^{-}\alpha}^{\#2}$	Symmetry[1, $\omega_{1^{-}}^{\#2\bullet 1}$, {●1 → -a}, StrongGenSet[{}, GenSet[]]]	$\omega_{\alpha\beta\chi}n^{\beta}n^{\chi}$	$\sigma_{1^{-}\alpha}^{\#2}$
$\omega_{2^{+}\alpha\beta}^{\#1}$	Symmetry[2, $\omega_{2^{+}}^{\#1\bullet 1\bullet 2}$, {●1 → -a, ●2 → -b}, StrongGenSet[{1, 2}, GenSet[(1,2)]]]	$-\frac{1}{2}\omega_{\alpha\chi\beta}n^{\chi}-\frac{1}{2}\omega_{\beta\chi\alpha}n^{\chi}-\frac{1}{3}\eta_{\alpha\beta}\omega_{\chi}^{\delta}{}_{\delta}n^{\chi}+\frac{1}{3}\omega_{\chi}^{\delta}{}_{\delta}n_{\alpha}n_{\beta}n^{\chi}+\frac{1}{2}\omega_{\beta\chi\delta}n_{\alpha}n^{\chi}n^{\delta}+\frac{1}{2}\omega_{\alpha\chi\delta}n_{\beta}n^{\chi}n^{\delta}$	$\sigma_{2^{+}\alpha\beta}^{\#1}$
$\omega_{2^{-}\alpha\beta\chi}^{\#1}$	Symmetry[3, $\omega_{2^{-}}^{\#1\bullet 1\bullet 2\bullet 3}$, {●1 → -a, ●2 → -b, ●3 → -c}, StrongGenSet[{1, 2}, GenSet[-(1,2)]]]	$\frac{1}{2}\omega_{\alpha\beta\chi}+\frac{1}{4}\omega_{\alpha\chi\beta}-\frac{3}{8}\eta_{\beta\chi}\omega_{\alpha}^{\delta}{}_{\delta}-\frac{1}{4}\omega_{\beta\chi\alpha}+\frac{3}{8}\eta_{\alpha\chi}\omega_{\beta}^{\delta}{}_{\delta}-\frac{3}{8}\omega_{\beta}^{\delta}{}_{\delta}n_{\alpha}n_{\chi}+\frac{3}{8}\omega_{\alpha}^{\delta}{}_{\delta}n_{\beta}n_{\chi}+\frac{1}{4}\omega_{\beta\chi\delta}n_{\alpha}n^{\delta}+\frac{1}{2}\omega_{\beta\delta\chi}n_{\alpha}n^{\delta}+$ $\frac{1}{4}\omega_{\chi\delta\beta}n_{\alpha}n^{\delta}+\frac{3}{8}\eta_{\beta\chi}\omega_{\delta}^{\epsilon}{}_{\epsilon}n_{\alpha}n^{\delta}-\frac{1}{4}\omega_{\alpha\chi\delta}n_{\beta}n^{\delta}-\frac{1}{2}\omega_{\alpha\delta\chi}n_{\beta}n^{\delta}-\frac{1}{4}\omega_{\chi\delta\alpha}n_{\beta}n^{\delta}-\frac{3}{8}\eta_{\alpha\chi}\omega_{\delta}^{\epsilon}{}_{\epsilon}n_{\beta}n^{\delta}-\frac{1}{2}\omega_{\alpha\beta\delta}n_{\chi}n^{\delta}-$ $\frac{1}{4}\omega_{\alpha\delta\beta}n_{\chi}n^{\delta}+\frac{1}{4}\omega_{\beta\delta\alpha}n_{\chi}n^{\delta}+\frac{3}{8}\eta_{\beta\chi}\omega_{\alpha\delta\epsilon}n^{\delta}n^{\epsilon}-\frac{3}{8}\eta_{\alpha\chi}\omega_{\beta\delta\epsilon}n^{\delta}n^{\epsilon}-\frac{3}{8}\omega_{\beta\delta\epsilon}n_{\alpha}n_{\chi}n^{\delta}n^{\epsilon}+\frac{3}{8}\omega_{\alpha\delta\epsilon}n_{\beta}n_{\chi}n^{\delta}n^{\epsilon}$	$\sigma_{2^{-}\alpha\beta\chi}^{\#1}$