

# Field kinematics

Momentum	Norm	Frame
$k^\mu$	$k^2 == k_\mu k^\mu$	$n^\mu == \frac{k^\mu}{k}$

## Fundamental fields

Fundamental field	Symmetries	Decomposition in SO(3) irreps	Source
$\theta_{\alpha\beta}$	StrongGenSet[{}], GenSet[[]]	$\frac{1}{3} \eta_{\alpha\beta} \theta_{0^+}^{\#1} + \theta_{1^+ \alpha\beta}^{\#1} + \theta_{2^+ \alpha\beta}^{\#1} + \theta_{1^- \beta}^{\#1} n_\alpha + \theta_{1^- \alpha}^{\#2} n_\beta - \frac{1}{3} \theta_{0^+}^{\#1} n_\alpha n_\beta + \theta_{0^+}^{\#2} n_\alpha n_\beta$	$\omega_{\alpha\beta}$

## SO(3) irreps

SO(3) irrep	Symmetries	Expansion in fundamental field	Source
$\theta_{0^+}^{\#1}$	StrongGenSet[{}], GenSet[[]]	$\theta^\alpha_\alpha - \theta^{\alpha\beta} n_\alpha n_\beta$	$\omega_{0^+}^{\#1}$
$\theta_{0^+}^{\#2}$	StrongGenSet[{}], GenSet[[]]	$\theta^{\alpha\beta} n_\alpha n_\beta$	$\omega_{0^+}^{\#2}$
$\theta_{1^+ \alpha\beta}^{\#1}$	StrongGenSet[{1, 2}], GenSet[-(1,2)][]	$\frac{\theta_{\alpha\beta}}{2} - \frac{\theta_{\beta\alpha}}{2} + \frac{1}{2} \theta_\beta^\chi n_\alpha n_\chi - \frac{1}{2} \theta_\beta^\chi n_\alpha n_\chi - \frac{1}{2} \theta_\alpha^\chi n_\beta n_\chi + \frac{1}{2} \theta_\alpha^\chi n_\beta n_\chi$	$\omega_{1^+ \alpha\beta}^{\#1}$
$\theta_{1^- \alpha}^{\#1}$	StrongGenSet[{}], GenSet[[]]	$\theta^\beta_\alpha n_\beta - \theta^{\beta\chi} n_\alpha n_\beta n_\chi$	$\omega_{1^- \alpha}^{\#1}$
$\theta_{1^- \alpha}^{\#2}$	StrongGenSet[{}], GenSet[[]]	$\theta_\alpha^\beta n_\beta - \theta^{\beta\chi} n_\alpha n_\beta n_\chi$	$\omega_{1^- \alpha}^{\#2}$
$\theta_{2^+ \alpha\beta}^{\#1}$	StrongGenSet[{1, 2}], GenSet[(1,2)][]	$\frac{\theta_{\alpha\beta}}{2} + \frac{\theta_{\beta\alpha}}{2} - \frac{1}{3} \eta_{\alpha\beta} \theta^\chi_\chi + \frac{1}{3} \theta^\chi_\chi n_\alpha n_\beta - \frac{1}{2} \theta_\beta^\chi n_\alpha n_\chi - \frac{1}{2} \theta_\beta^\chi n_\alpha n_\chi - \frac{1}{2} \theta_\alpha^\chi n_\beta n_\chi - \frac{1}{2} \theta_\alpha^\chi n_\beta n_\chi + \frac{1}{3} \eta_{\alpha\beta} \theta^{\chi\delta} n_\chi n_\delta + \frac{2}{3} \theta^{\chi\delta} n_\alpha n_\beta n_\chi n_\delta$	$\omega_{2^+ \alpha\beta}^{\#1}$