Field kinematics

Momentum	Norm	Frame
k^μ	$k^2 == k_\mu \, k^\mu$	$n^\mu == \dfrac{k^\mu}{k}$

Fundamental fields

Fields	Symmetries	SO(3)	Sources
$\mathcal{A}_{\alpha\beta\chi}$	StrongGenSet[{1, 2}, GenSet[-(1,2)]]	$-\frac{1}{2}\eta_{\beta\chi}\,\mathcal{A}^{\#1}_{1^-\,\alpha}+\frac{1}{2}\eta_{\alpha\chi}\,\mathcal{A}^{\#1}_{1^-\,\beta}+\frac{4}{3}\mathcal{A}^{\#1}_{2^-\,\alpha\beta\chi}+\frac{1}{3}\eta_{\beta\chi}\,\mathcal{A}^{\#1}_{0^+}\,n_\alpha+\mathcal{A}^{\#1}_{1^+\,\beta\chi}\,n_\alpha+\mathcal{A}^{\#1}_{2^+\,\beta\chi}\,n_\alpha-\frac{1}{3}\eta_{\alpha\chi}\,\mathcal{A}^{\#1}_{0^+}\,n_\beta-$ $\mathcal{A}^{\#1}_{1^+\,\alpha\chi}\,n_\beta-\mathcal{A}^{\#1}_{2^+\,\alpha\chi}\,n_\beta+\mathcal{A}^{\#2}_{1^+\,\alpha\beta}\,n_\chi-\frac{1}{2}\mathcal{A}^{\#1}_{1^-\,\beta}\,n_\alpha\,n_\chi-\mathcal{A}^{\#2}_{1^-\,\beta}\,n_\alpha\,n_\chi+\frac{1}{2}\mathcal{A}^{\#1}_{1^-\,\alpha}\,n_\beta\,n_\chi+\mathcal{A}^{\#2}_{1^-\,\alpha}\,n_\beta\,n_\chi-\frac{1}{6}\epsilon\eta_{\alpha\beta\chi\delta}\,\mathcal{A}^{\#1}_{0^-}\,n^\delta$	$\sigma_{\alpha\beta\chi}$

SO(3) irreps

SO(3)	Symmetries	Expansion	Sources
$\mathcal{A}^{\#1}_{0^+}$	StrongGenSet[{}, GenSet[]]	$\mathcal{A}_\alpha{}^\beta\,n^\alpha$	$\sigma^{\#1}_{0^+}$
$\mathcal{A}^{\#1}_{0^-}$	StrongGenSet[{}, GenSet[]]	$-\epsilon\eta_{\alpha\beta\chi\delta}\,\mathcal{A}^{\beta\chi\delta}\,n^\alpha$	$\sigma^{\#1}_{0^-}$
$\mathcal{A}^{\#1}_{1^+\,\alpha\beta}$	StrongGenSet[{1, 2}, GenSet[-(1,2)]]	$-\frac{1}{2}\mathcal{A}_{\alpha\chi\beta}\,n^\chi+\frac{1}{2}\mathcal{A}_{\beta\chi\alpha}\,n^\chi-\frac{1}{2}\mathcal{A}_{\beta\chi\delta}\,n_\alpha\,n^\chi\,n^\delta+\frac{1}{2}\mathcal{A}_{\alpha\chi\delta}\,n_\beta\,n^\chi\,n^\delta$	$\sigma^{\#1}_{1^+\,\alpha\beta}$
$\mathcal{A}^{\#2}_{1^+\,\alpha\beta}$	StrongGenSet[{1, 2}, GenSet[-(1,2)]]	$\mathcal{A}_{\alpha\beta\chi}\,n^\chi+\mathcal{A}_{\beta\chi\delta}\,n_\alpha\,n^\chi\,n^\delta-\mathcal{A}_{\alpha\chi\delta}\,n_\beta\,n^\chi\,n^\delta$	$\sigma^{\#2}_{1^+\,\alpha\beta}$
$\mathcal{A}^{\#1}_{1^-\,\alpha}$	StrongGenSet[{}, GenSet[]]	$-\mathcal{A}_\alpha{}^\beta{}_\beta+\mathcal{A}_\beta{}^\chi{}_\chi\,n_\alpha\,n^\beta+\mathcal{A}_{\alpha\beta\chi}\,n^\beta\,n^\chi$	$\sigma^{\#1}_{1^-\,\alpha}$
$\mathcal{A}^{\#2}_{1^-\,\alpha}$	StrongGenSet[{}, GenSet[]]	$\mathcal{A}_{\alpha\beta\chi}\,n^\beta\,n^\chi$	$\sigma^{\#2}_{1^-\,\alpha}$
$\mathcal{A}^{\#1}_{2^+\,\alpha\beta}$	StrongGenSet[{1, 2}, GenSet[(1,2)]]	$-\frac{1}{2}\mathcal{A}_{\alpha\chi\beta}\,n^\chi-\frac{1}{2}\mathcal{A}_{\beta\chi\alpha}\,n^\chi-\frac{1}{3}\eta_{\alpha\beta}\,\mathcal{A}_\chi{}^\delta{}_\delta\,n^\chi+\frac{1}{3}\mathcal{A}_\chi{}^\delta{}_\delta\,n_\alpha\,n_\beta\,n^\chi+\frac{1}{2}\mathcal{A}_{\beta\chi\delta}\,n_\alpha\,n^\chi\,n^\delta+\frac{1}{2}\mathcal{A}_{\alpha\chi\delta}\,n_\beta\,n^\chi\,n^\delta$	$\sigma^{\#1}_{2^+\,\alpha\beta}$
$\mathcal{A}^{\#1}_{2^-\,\alpha\beta\chi}$	StrongGenSet[{1, 2}, GenSet[-(1,2)]]	$\frac{1}{2}\mathcal{A}_{\alpha\beta\chi}+\frac{1}{4}\mathcal{A}_{\alpha\chi\beta}-\frac{3}{8}\eta_{\beta\chi}\,\mathcal{A}_\alpha{}^\delta{}_\delta-\frac{1}{4}\mathcal{A}_{\beta\chi\alpha}+\frac{3}{8}\eta_{\alpha\chi}\,\mathcal{A}_\beta{}^\delta{}_\delta-\frac{3}{8}\mathcal{A}_\beta{}^\delta{}_\delta\,n_\alpha\,n_\chi+\frac{3}{8}\mathcal{A}_\alpha{}^\delta{}_\delta\,n_\beta\,n_\chi+\frac{1}{4}\mathcal{A}_{\beta\chi\delta}\,n_\alpha\,n^\delta+\frac{1}{2}\mathcal{A}_{\beta\delta\chi}\,n_\alpha\,n^\delta+\frac{1}{4}\mathcal{A}_{\chi\delta\beta}\,n_\alpha\,n^\delta+\frac{3}{8}\eta_{\beta\chi}\,\mathcal{A}_\delta{}^\epsilon{}_\epsilon\,n_\alpha\,n^\delta-\frac{1}{4}\mathcal{A}_{\alpha\chi\delta}\,n_\beta\,n^\delta-\frac{1}{2}\mathcal{A}_{\alpha\delta\chi}\,n_\beta\,n^\delta-$ $\frac{1}{4}\mathcal{A}_{\chi\delta\alpha}\,n_\beta\,n^\delta-\frac{3}{8}\eta_{\alpha\chi}\,\mathcal{A}_\delta{}^\epsilon{}_\epsilon\,n_\beta\,n^\delta-\frac{1}{2}\mathcal{A}_{\alpha\beta\delta}\,n_\chi\,n^\delta-\frac{1}{4}\mathcal{A}_{\alpha\delta\beta}\,n_\chi\,n^\delta+\frac{1}{4}\mathcal{A}_{\beta\delta\alpha}\,n_\chi\,n^\delta+\frac{3}{8}\eta_{\beta\chi}\,\mathcal{A}_{\alpha\delta\epsilon}\,n^\delta\,n^\epsilon-\frac{3}{8}\eta_{\alpha\chi}\,\mathcal{A}_{\beta\delta\epsilon}\,n^\delta\,n^\epsilon-\frac{3}{8}\mathcal{A}_{\beta\delta\epsilon}\,n_\alpha\,n_\chi\,n^\delta\,n^\epsilon+\frac{3}{8}\mathcal{A}_{\alpha\delta\epsilon}\,n_\beta\,n_\chi\,n^\delta\,n^\epsilon$	$\sigma^{\#1}_{2^-\,\alpha\beta\chi}$