## Field kinematics

Basic conventions				
Minkowski metric tensor	Totally antisymmetric tensor	Momentum	Norm	Frame
$\eta_{\mu  u}$	$\epsilon \eta_{\mu \nu  ho \sigma}$	k <sup>µ</sup>	$k^2 == k_\mu k^\mu$	$n^{\mu} == \frac{k^{\mu}}{k}$

SO(3) irreps

SO(3) irrep | Symmetries

 ${\cal B}_{lphaeta}$ 

 $\mathcal{B}_{1}^{\#1}{}_{lphaeta}$ 

 $\mathcal{B}_{1^{-}\alpha}^{\sharp 1}$ 

Fundamental fields				
Fundamental field	Symmetries	Decomposition in SO(3) ir		

Symmetry[2,  $\mathcal{B}_{1}^{\#1} \bullet 1 \bullet 2$ ,  $\{ \bullet 1 \rightarrow -a, \bullet 2 \rightarrow -b \}$ ,

StrongGenSet[{1, 2}, GenSet[-(1,2)]]]

Symmetry[2,  $\mathcal{B}^{\bullet 1 \bullet 2}$ ,  $\{\bullet 1 \rightarrow -a, \bullet 2 \rightarrow -b\}$ , StrongGenSet[ $\{1, 2\}$ , GenSet[-(1, 2)]]]  $\mathcal{B}_{1^{+}\alpha\beta}^{\#1} - \mathcal{B}_{1^{-}\beta}^{\#1} n_{\alpha} + \mathcal{B}_{1^{-}\alpha}^{\#1} n_{\beta}$ 

Symmetry[1,  $\mathcal{B}_{1}^{\#1} \bullet 1$ ,  $\{ \bullet 1 \rightarrow -a \}$ , StrongGenSet[ $\{ \}$ , GenSet[ $\} \}$ ]  $\mathcal{B}_{\alpha\beta}$   $n^{\beta}$ 

 $\mathcal{B}_{\alpha\beta} + \mathcal{B}_{\beta\chi} n_{\alpha} n^{\chi} - \mathcal{B}_{\alpha\chi} n_{\beta} n^{\chi}$ 

irreps

Expansion in terms of the fundamental field

Source



Source

 $\left|\mathcal{J}_{1}^{\#1}_{lphaeta}\right|$ 

 ${\mathcal J}_{1^-}^{{\scriptscriptstyle\#}1}{}_{lpha}$