

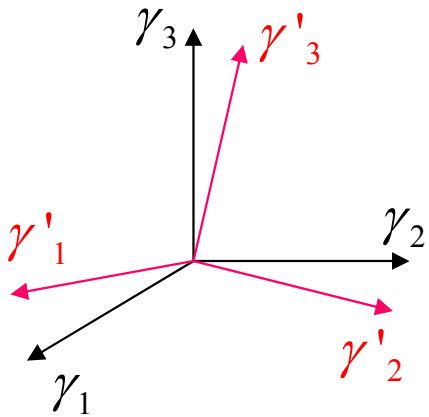
Usually, reference frames are ``rotated'' (Lorentz rotated) according to

$$\gamma_a \rightarrow \gamma'_a = \mathbf{R} \gamma_a \mathbf{R}^{-1} = L_a^b \gamma_b$$

A proper or improper Lorentz transformation

Therefore, a ``rotated'' observer sees (generalized) spinors transformed according to

$$\Phi \rightarrow \Phi' = \mathbf{R} \Phi \mathbf{R}^{-1}$$



With respect to a new reference frame, the object

$$\Phi = \psi^{\tilde{A}} \xi_{\tilde{A}}$$

is expanded as

$$\Phi = \psi'^{\tilde{A}} \xi'_{\tilde{A}}$$

where $\psi'^{\tilde{A}} = \psi^{\tilde{B}} (L^{-1})_{\tilde{B}}^{\tilde{A}}$

The corresponding matrix $\psi^{\alpha i}$ transforms from the left and from the right.

$$\tilde{A} \equiv \alpha i, \quad B \equiv \beta j$$

$$\alpha, \beta = 1, 2, 3, 4$$

$$i, j = 1, 2, 3, 4$$