

$$\begin{array}{ccc}
 \mathbb{1} \in \mathcal{L}_+^\uparrow & \xrightarrow{P} & \mathcal{L}_-^\uparrow \ni P \\
 \downarrow T & \searrow PT & \downarrow T \\
 T \in \mathcal{L}_-^\downarrow & \xrightarrow{P} & \mathcal{L}_+^\downarrow \ni -\mathbb{1}
 \end{array}$$

$$\begin{array}{ccc}
 \mathrm{SO}(3;1)^+ & \xrightarrow{\quad \Pi \quad} & \mathrm{GL}(V) \\
 \uparrow \scriptstyle \mathrm{exp} & & \uparrow \scriptstyle \mathrm{exp} \\
 \mathfrak{so}(3;1) & \xrightarrow{\quad \pi \quad} & \mathfrak{gl}(V)
 \end{array}$$

