

$$\mathfrak{g} = \mathfrak{g}^+ \times \bar{\mathfrak{g}}$$

$$\mathfrak{g}^\sharp = \mathfrak{g}^{\sharp+} \times \bar{\mathfrak{g}}^\sharp$$

$$\mathfrak{g}^\sharp \overset{\text{J}}{\underset{G \text{ inv}}{\longrightarrow}} \mathbb{R} \Rightarrow \bar{\text{J}} \times_{\bar{}} \bar{\text{J}} = 0$$

$$\ell \in \bar{\mathfrak{g}}^\sharp = \mathfrak{g}^{\sharp+}$$

$$\overbrace{\ell}^{\bar{\text{J}} \times_{\bar{}} \bar{\text{J}}} = \ell \overbrace{\ell}^{\bar{\text{J}} \times_{\bar{}} \bar{\text{J}}} = \ell \overbrace{\ell}^{\bar{\text{J}} \times_{\bar{}} \bar{\text{J}}} = \ell \overbrace{\ell}^{\text{J} - \text{J}^+ \times \bar{\text{J}}} = \ell \overbrace{\ell}^{\text{J} \times \bar{\text{J}}} - \ell \overbrace{\ell}^{\text{J}^+ \times \bar{\text{J}}}$$

$$= -\ell \overbrace{\ell}^{\text{J}^+ \times \bar{\text{J}}} = -\ell \overbrace{\ell}^{\text{J}^+ \times \underbrace{\text{J} - \text{J}^+}_{\bar{\text{J}}}} = -\ell \overbrace{\ell}^{\text{J}^+ \times \bar{\text{J}}} + \ell \overbrace{\ell}^{\text{J}^+ \times \text{J}^+} = \ell \overbrace{\ell}^{\in \mathfrak{g}^+} = 0$$