

$$\mathfrak{h}^2_{\Delta \mathbb{C}} \xrightarrow{g \times} \mathfrak{h}^2_{\Delta \mathbb{C}}$$

$${}^x \overline{g \times \eta} = {}^x \delta_g g \times x \eta$$

$$\underline{g \times \eta} \times \underline{g \times \eta} = \eta \times \eta$$

$$\text{LHS} = \int_{dx} \overline{{}^x \delta_g g \times x \eta} {}^x \delta_g g \times x \eta = \int_{dx} \overline{{}^x \delta_g} g \times x \eta g \times x \eta = \int_{dy} {}^y \eta {}^y \eta = \text{RHS}$$

$$\mathfrak{h}^2_{\Delta \mathbb{C}} \xrightarrow{\gamma \times} \mathfrak{h}^2_{\Delta \mathbb{C}}$$

$${}^x \overline{\gamma \times \eta} = {}^x \delta_\gamma {}^x \eta + {}^x \gamma {}^x \eta$$

$$\overline{\gamma \times \eta} \times \eta + \eta \times \overline{\gamma \times \eta} = 0$$

$${}^x \gamma_w = w - x \dot{w} x$$

$$\mathfrak{h}^2_{\Delta \mathbb{C}} \xrightarrow{\gamma_w \times} \mathfrak{h}^2_{\Delta \mathbb{C}}$$

$${}^x \overline{\gamma_w \times \eta} = {}^x \delta_w {}^x \eta + {}^x \gamma_w {}^x \eta$$

$$\overline{\gamma_w \times \eta} \times \eta + \eta \times \overline{\gamma_w \times \eta} = 0$$

$$U'_w = \alpha_w + \beta_w + \partial_w$$