

$$\begin{array}{ccc}
 i\mathbb{R} \begin{array}{|} \triangleleft_0 \\ \end{array} i\mathbb{R} \rtimes i\mathbb{R} & \xrightarrow{\cong} & \mathbb{R} \rtimes i\mathbb{R} \begin{array}{|} \triangleleft_{\mathbb{R}} \\ \end{array} \\
 \downarrow M \times C & & \downarrow \hat{M} \times \hat{C} \\
 \mathcal{U} \begin{array}{|} i\mathbb{R} \\ \triangleleft_m^2 \\ \end{array} \mathbb{C} & \xrightarrow{\cong} & \mathcal{U} \begin{array}{|} \mathbb{R} \\ \triangleleft^2 \\ \end{array} \mathbb{C}
 \end{array}$$

$$\begin{array}{ccc}
 i\mathbb{R} \begin{array}{|} \triangleleft_m^2 \\ \end{array} \mathbb{C} & \xleftarrow[\alpha_{\delta}^{\infty}]{\ell_{\zeta}} & i\mathbb{R} \begin{array}{|} \triangleleft_m^2 \\ \end{array} \mathbb{C} \\
 \downarrow \cong & & \downarrow \cong \\
 \mathbb{R} \begin{array}{|} \triangleleft^2 \\ \end{array} \mathbb{C} & \xleftarrow[\alpha_{\delta}^1]{M_{\bar{\zeta}}} & \mathbb{R} \begin{array}{|} \triangleleft^2 \\ \end{array} \mathbb{C}
 \end{array}$$

$$\text{multiplicatrix } {}^n\mathbb{R} \xrightarrow[\text{hom}]{M} \mathcal{U} \begin{array}{|} i\mathbb{R} \\ \triangleleft_m^2 \\ \end{array} \mathbb{C}$$

$$\zeta \overline{{}^n \rtimes \gamma} = \zeta_n \zeta \gamma$$

$$\ell_s^t \gamma = \bar{s}^t \gamma \text{ translatrix}$$