

$$\begin{array}{ccc}
{}^n_{\mathbb{C}}\mathbb{R}_n & \xrightarrow{\text{on}} & \mathbb{U}|_U {}^n_{\mathbb{C}}\mathbb{R}_n^\mathfrak{D} \\
\uparrow \exp & & \uparrow \exp \\
{}^n_{\mathbb{E}}\mathbb{R}_n & \xrightarrow{\text{on}} & \mathbb{U}|_U {}^n_{\mathbb{E}}\mathbb{R}_n^\mathfrak{D}
\end{array}$$

$$\begin{matrix} \lrcorner \rtimes_A \frac{\mathbb{F}^{-1}}{0} \Big| 0 \\ \downarrow \mathbb{F} \end{matrix} = \lrcorner \rtimes \overset{*}{A} \begin{matrix} \mathbb{F}^{-1} \\ 0 \\ \downarrow \mathbb{F} \end{matrix} A$$

$$A = \frac{1}{\sqrt{2}} \begin{matrix} 1 \\ 1 \end{matrix} \Big| \begin{matrix} -1 \\ 1 \end{matrix} \Rightarrow \mathfrak{D} \overset{*}{X} = \mathfrak{U} \Rightarrow A \mathbb{U} \overset{*}{A} = \mathbb{U} \text{ *-inv } / {}^n_{\mathbb{C}}\mathbb{R}_n$$

$$\begin{array}{ccc}
{}^n_{\mathbb{C}}\mathbb{C}_n^\mathfrak{D} & \xrightarrow{\text{on}} & \mathbb{U}|_U {}^n_{\mathbb{C}}\mathbb{R}_n^\mathfrak{D} \\
\uparrow \exp & & \uparrow \exp \\
{}^n_{\mathbb{E}}\mathbb{C}_n^\mathfrak{D} & \xrightarrow{\text{on}} & \mathbb{U}|_U {}^n_{\mathbb{E}}\mathbb{R}_n^\mathfrak{D}
\end{array}$$

$$\lrcorner \rtimes \begin{matrix} \mathbb{F} \\ -\mathbb{F} \end{matrix} \Big| \begin{matrix} \mathbb{F} \\ \mathbb{F} \end{matrix} = \lrcorner \begin{matrix} \mathbb{F} \\ -\mathbb{F} \end{matrix} \Big| \begin{matrix} \mathbb{F} \\ \mathbb{F} \end{matrix}$$

$$\mathfrak{D} = \mathbb{U} \Rightarrow \mathbb{U} = D \mathfrak{D} \overset{*}{D} \text{ *-inv } / {}^n_{\mathbb{C}}\mathbb{C}_n^\mathfrak{D} \subset {}^{2n}\mathbb{R}_{2n}^\mathfrak{D} \cap D'$$

$$D = \frac{1}{\sqrt{2}} \begin{matrix} 1 \\ -* \end{matrix} \Big| \begin{matrix} * \\ 1 \end{matrix}$$

$$\begin{array}{ccc}
{}^n_{\mathbb{C}}\mathbb{C}_n & \xrightarrow{\text{on}} & \mathbb{U}|_U {}^n_{\mathbb{C}}\mathbb{C}_n^\mathfrak{U} \\
\uparrow \exp & & \uparrow \exp \\
{}^n_{\mathbb{E}}\mathbb{C}_n & \xrightarrow{\text{on}} & \mathbb{U}|_U {}^n_{\mathbb{E}}\mathbb{C}_n^\mathfrak{U}
\end{array}$$

$$\begin{array}{c} \Leftrightarrow \\ A \end{array} \times_A \frac{\begin{array}{c} \mathbb{F}^{-1} \\ 0 \end{array}}{\mathbb{F}} = \begin{array}{c} \Leftrightarrow \\ A \end{array} \times_A^* \frac{\begin{array}{c} \mathbb{F}^{-1} \\ 0 \end{array}}{\mathbb{F}} A$$

$$A = \frac{1}{\sqrt{2}} \begin{array}{c} 1 \\ 1 \end{array} \begin{array}{c} -1 \\ 1 \end{array} \Rightarrow \Theta \overset{*}{A} = \Theta \Rightarrow A \mathbf{U} \overset{*}{A} = \mathbf{U} \text{-inv} / {}_0^n \mathbb{C}_n$$

$$\begin{array}{ccc} {}^{2n}\mathbb{C}_{2n}^\Omega & \xrightarrow[\text{on}]{} & \mathbf{U}|_U {}^n \mathbb{H}_n^\mathbf{U} \\ \exp \uparrow & & \uparrow \exp \\ {}^{2n}\mathbb{C}_{2n}^\Theta & \xrightarrow[\text{on}]{} & \Theta|_U {}^n \mathbb{H}_n^\Theta \end{array}$$

$$\begin{array}{c} \Leftrightarrow \\ C \end{array} \times_C \frac{\begin{array}{c} \mathbb{F} \\ \mathbb{F} \end{array}}{\mathbb{F}} = \begin{array}{c} \Leftrightarrow \\ C \end{array} \times_C^* \frac{\begin{array}{c} \mathbb{F} \\ \mathbb{F} \end{array}}{\mathbb{F}} C$$

$$C = \frac{1}{\sqrt{2}} \begin{array}{c} j \\ i \end{array} \begin{array}{c} ji \\ 1 \end{array} \Rightarrow C \mathbf{U} \overset{*}{C} = -j \Theta \Rightarrow C \mathbf{U} \overset{*}{C} = -ij \Theta \text{-inv} / {}^{2n} \mathbb{C}_{2n}^\Omega$$

$$\Rightarrow j * \frac{\begin{array}{c} \mathbb{F} \\ \mathbb{F} \end{array}}{\mathbb{F}} \oplus = j \frac{\bar{\mathbb{F}}}{\bar{\mathbb{F}}} \begin{array}{c} -\bar{\mathbb{F}} \\ -\bar{\mathbb{F}} \end{array} = \frac{\mathbb{F}}{\mathbb{F}} \begin{array}{c} -\mathbb{F} \\ -\mathbb{F} \end{array} j = \frac{\mathbb{F}}{\mathbb{F}} \begin{array}{c} \mathbb{F} \\ \mathbb{F} \end{array} j \Theta$$

$$\begin{array}{ccc} {}^n \mathbb{H}_n & \xrightarrow[\text{on}]{} & \mathbf{U}|_U {}^n \mathbb{H}_n^\mathbf{U} \\ \exp \uparrow & & \uparrow \exp \\ {}^n \mathbb{H}_n & \xrightarrow[\text{on}]{} & \Theta|_U {}^n \mathbb{H}_n^\Theta \end{array}$$

$$\begin{array}{c} \Leftrightarrow \\ A \end{array} \times_A \frac{\begin{array}{c} \mathbb{F}^{-1} \\ 0 \end{array}}{\mathbb{F}} = \begin{array}{c} \Leftrightarrow \\ A \end{array} \times_A^* \frac{\begin{array}{c} \mathbb{F}^{-1} \\ 0 \end{array}}{\mathbb{F}} A$$

$$A = \frac{1}{\sqrt{2}} \begin{array}{c} 1 \\ 1 \end{array} \begin{array}{c} -1 \\ 1 \end{array} \Rightarrow \Theta \overset{*}{A} = \Theta \Rightarrow A \mathbf{U} \overset{*}{A} = \mathbf{U} \text{-inv} / {}_0^n \mathbb{H}_n$$