

$$\begin{aligned}
0 &= 0 \times \frac{\bar{\mathbb{J}}}{-\bar{\mathbb{J}}} \Big| \frac{\mathbb{J}}{\mathbb{J}} = \bar{\mathbb{J}}^{-1} \mathbb{J} \stackrel{i}{\Leftrightarrow} \mathbb{J} = 0 \\
0 &= 0 \times \frac{1}{-1} \Big| \frac{1}{1} = 1 = 1 \times \frac{\mathbb{J}^{*-1}}{0} \Big| \frac{0}{\mathbb{J}} = \mathbb{J}^* \mathbb{J} \stackrel{iii}{\Leftrightarrow} \mathbb{J}^{-1} = \mathbb{J}^* \\
0 &= 0 \times \frac{1}{-1} \Big| \frac{1}{1} = 1 = 1 \times \frac{\mathbb{J}}{0} \Big| \frac{0}{\mathbb{J}} = \mathbb{J}^{-1} \mathbb{J} \stackrel{iv}{\Leftrightarrow} \mathbb{J} = \mathbb{J} \\
0 &\times \frac{1}{-i} \Big| \frac{-i}{1} = -i = -i \times \frac{\mathbb{J}}{0} \Big| \frac{0}{\mathbb{J}} = -i \mathbb{J}^{-1} \mathbb{J} \stackrel{v}{\Leftrightarrow} \mathbb{J} = \mathbb{J} \\
0 &\times \frac{-j}{ij} \Big| \frac{-i}{1} = ij = ij \frac{\mathbb{J}}{\mathbb{J}} \Big| \frac{\mathbb{J}}{\mathbb{J}} = \overbrace{\mathbb{J} + ij \mathbb{J}}^{-1} \underbrace{\mathbb{J} + ij \mathbb{J}}_{vi} \stackrel{vi}{\Leftrightarrow} \begin{cases} \mathbb{J} = \bar{\mathbb{J}} \\ \mathbb{J} = -\bar{\mathbb{J}} \end{cases}
\end{aligned}$$

$$\begin{aligned}
{}^n\mathbb{R}_n^U &= \mathcal{U} \Big| \dot{\mathcal{U}} \Big| {}^n\mathbb{R}_n^\exists \xrightarrow{\varepsilon_0} {}^n\mathbb{R}_n^\exists \\
{}^n\mathbb{R}_n^U &= \mathcal{U} \Big| \dot{\mathcal{U}} \Big| {}^n\mathbb{R}_n^\exists \xrightarrow{\varepsilon_0} {}^n\mathbb{R}_n^\exists \\
\mathcal{U} \Big| \dot{\mathcal{U}} \Big| {}^n\mathbb{R}_n^\exists &= \mathcal{U}_1 \Big| \dot{\mathcal{U}} \Big| {}^n\mathbb{R}_n^\exists \times \mathcal{U}_- \Big| \dot{\mathcal{U}} \Big| {}^n\mathbb{R}_n^\exists \\
\mathcal{U}_1 \Big| \dot{\mathcal{U}} \Big| {}^n\mathbb{R}_n^\exists &= \\
\mathcal{U}_- \Big| \dot{\mathcal{U}} \Big| {}^n\mathbb{R}_n^\exists &= \\
{}^n\mathbb{R}_n^U \sqcap {}^n\mathbb{R}_n^U \times {}^n\mathbb{R}_n^U &\xrightarrow{\varepsilon_0} \underset{<}{\circ} {}^n\mathbb{R}_n^\exists \\
{}^n\mathbb{R}_n^U \sqcap {}^n\mathbb{C}_n^\exists &\xrightarrow{\varepsilon_0} \underset{<}{\mathcal{U}} {}^n\mathbb{R}_n^\exists \\
0 \Big| \Big| {}^n\mathbb{R}_n^U \times {}^n\mathbb{R}_n^U &\stackrel{iv}{=} {}^n\mathbb{R}_n^U \stackrel{i}{=} 0 \Big| \Big| {}^n\mathbb{C}_n^\exists
\end{aligned}$$

$${}^n\mathbb{R}_n^{\mathcal{U}} \sqsubset \mathcal{U} \mid \dot{\mathbb{R}}_n^{\mathfrak{D}} \xrightarrow{\varepsilon_0} \dot{\mathbb{R}}_n^{\mathfrak{D}}$$

$${}^n\mathbb{R}_n^{\mathcal{U}} \sqsubset \mathcal{U} \mid \dot{\mathbb{R}}_n^{\mathfrak{D}} \xrightarrow{\varepsilon_0} {}^n\mathbb{R}_n^{\mathfrak{D}}$$

$$\mathcal{U} \mid \dot{\mathbb{R}}_n^{\mathfrak{D}} = \mathcal{U}_1 \mid \dot{\mathbb{R}}_n^{\mathfrak{D}} \times \mathcal{U}_- \mid \dot{\mathbb{R}}_n^{\mathfrak{D}}$$

$$\mathcal{U}_1 \mid \dot{\mathbb{R}}_n^{\mathfrak{D}} =$$

$$\mathcal{U}_- \mid \dot{\mathbb{R}}_n^{\mathfrak{D}} =$$

$${}^n\mathbb{R}_n^{\mathcal{U}} \sqsubset {}^n\mathbb{C}_n^{\mathcal{U}} \xrightarrow{\varepsilon_0} \mathbb{O}_n^{\mathfrak{D}}$$

$${}^n\mathbb{R}_n^{\mathcal{U}} \sqsubset {}^n\mathbb{C}_n^{\mathcal{R}} \xrightarrow{\varepsilon_0} \mathbb{U}_n^{\mathfrak{D}}$$

$$0 \swarrow \mathbb{C}_n^{\mathcal{U}} \equiv \mathbb{R}_n^{\mathcal{U}} \equiv \mathbb{C}_n^{\mathcal{R}} \searrow 0$$

$${}^n\mathcal{C}_n^{\mathcal{U}} = \mathcal{U} | \dot{\mathcal{U}} | {}^n\mathcal{C}_n^{\mathcal{V}} \xrightarrow{\varepsilon_0} {}^n\mathcal{C}_n^{\mathcal{W}}$$

$${}^n\mathcal{C}_n^{\mathcal{V}} = \mathcal{V} | \dot{\mathcal{V}} | {}^n\mathcal{C}_n^{\mathcal{U}} \xrightarrow{\varepsilon_0} {}^n\mathcal{C}_n^{\mathcal{W}}$$

$$\mathcal{V} | \dot{\mathcal{V}} | {}^n\mathcal{C}_n^{\mathcal{V}} = \mathcal{V}_1 | \dot{\mathcal{V}} | {}^n\mathcal{C}_n^{\mathcal{U}} \times \mathcal{V}_- | \dot{\mathcal{V}} | {}^n\mathcal{C}_n^{\mathcal{V}}$$

$$\mathcal{V}_1 | \dot{\mathcal{V}} | {}^n\mathcal{C}_n^{\mathcal{V}} =$$

$$\mathcal{V}_- | \dot{\mathcal{V}} | {}^n\mathcal{C}_n^{\mathcal{V}} =$$

$${}^n\mathcal{C}_n^{\mathcal{U}} \sqsupset {}^n\mathcal{C}_n^{\mathcal{U}} \times {}^n\mathcal{C}_n^{\mathcal{U}} \xrightarrow[\sphericalangle]{\varepsilon_0} {}^n\mathcal{C}_n^{\mathcal{W}}$$

$${}^n\mathcal{C}_n^{\mathcal{U}} \sqsupset {}^n\mathcal{C}_n^{\mathcal{U}} \xrightarrow[\sphericalangle]{\varepsilon_0} {}^n\mathcal{C}_n^{\mathcal{W}}$$

$$0 \swarrow \left| {}^n\mathcal{C}_n^{\mathcal{U}} \times {}^n\mathcal{C}_n^{\mathcal{U}} \right| \underset{\vee}{=} {}^n\mathcal{C}_n^{\mathcal{U}} \underset{\text{iii}}{=} 0 \swarrow \left| {}^n\mathcal{C}_n^{\mathcal{U}} \right| \underset{\vee}{=} {}^n\mathcal{C}_n^{\mathcal{U}}$$

$${}^n\mathbb{H}_n^U \simeq \mathcal{U} |_{\dot{\mathcal{U}}} {}^n\mathbb{H}_n^{\mathcal{U}} \xrightarrow{\varepsilon_0} {}^n\mathbb{H}_n^{\mathcal{U}}$$

$${}^n\mathbb{H}_n^{\mathcal{U}} \simeq \mathcal{U} |_{\dot{\mathcal{U}}} {}^n\mathbb{H}_n^{\mathcal{U}} \xrightarrow{\varepsilon_0} {}^n\mathbb{H}_n^{\mathcal{U}}$$

$$\mathcal{U} |_{\dot{\mathcal{U}}} {}^n\mathbb{H}_n^{\mathcal{U}} = \mathcal{U}_1 |_{\dot{\mathcal{U}}} {}^n\mathbb{H}_n^{\mathcal{U}} \times \mathcal{U}_- |_{\dot{\mathcal{U}}} {}^n\mathbb{H}_n^{\mathcal{U}}$$

$$\mathcal{U}_1 |_{\dot{\mathcal{U}}} {}^n\mathbb{H}_n^{\mathcal{U}} =$$

$$\mathcal{U}_- |_{\dot{\mathcal{U}}} {}^n\mathbb{H}_n^{\mathcal{U}} =$$

$${}^n\mathbb{H}_n^U \sqsubset {}^n\mathbb{H}_n^U \times {}^n\mathbb{H}_n^U \xrightarrow[\simeq]{\varepsilon_0} \circlearrowleft {}^n\mathbb{H}_n^{\mathcal{U}}$$

$${}^n\mathbb{H}_n^U \sqsubset {}^{2n}\mathbb{C}_{2n}^{\mathcal{E}} \xrightarrow[\simeq]{\varepsilon_0} \mathcal{U} {}^n\mathbb{H}_n^{\mathcal{U}}$$

$$0 \swarrow \left| {}^n\mathbb{H}_n^U \times {}^n\mathbb{H}_n^U \right|_{iv} \equiv {}^n\mathbb{H}_n^U \equiv \left| {}^{2n}\mathbb{C}_{2n}^{\mathcal{E}} \right|_{vi} \searrow 0$$

$${}^n\mathbb{H}_n^{\mathcal{U}} = \mathcal{U} |_{\dot{\mathcal{U}}} {}^n\mathbb{H}_n^{\mathcal{V}} \xrightarrow{\varepsilon_0} {}^n\mathbb{H}_n^{\mathcal{V}}$$

$${}^n\mathbb{H}_n^{\mathcal{V}} = \mathcal{V} |_{\dot{\mathcal{V}}} {}^n\mathbb{H}_n^{\mathcal{V}} \xrightarrow{\varepsilon_0} {}^n\mathbb{H}_n^{\mathcal{V}}$$

$$\mathcal{V} |_{\dot{\mathcal{U}}} {}^n\mathbb{H}_n^{\mathcal{V}} = \mathcal{V}_1 |_{\dot{\mathcal{U}}} {}^n\mathbb{H}_n^{\mathcal{V}} \times \mathcal{V}_- |_{\dot{\mathcal{U}}} {}^n\mathbb{H}_n^{\mathcal{V}}$$

$$\mathcal{V}_1 |_{\dot{\mathcal{U}}} {}^n\mathbb{H}_n^{\mathcal{V}} =$$

$$\mathcal{V}_- |_{\dot{\mathcal{U}}} {}^n\mathbb{H}_n^{\mathcal{V}} =$$

$${}^n\mathbb{H}_n^{\mathcal{U}} \Gamma {}^{2n}\mathbb{C}_{2n}^{\mathcal{U}} \xrightarrow{\varepsilon_0} \circlearrowleft {}^n\mathbb{H}_n^{\mathcal{V}}$$

$${}^n\mathbb{H}_n^{\mathcal{U}} \Gamma {}^n\mathbb{C}_{\mathbb{H}_n} \xrightarrow{\varepsilon_0} \mathcal{U} {}^n\mathbb{H}_n^{\mathcal{V}}$$

$$0 \swarrow {}^{2n}\mathbb{C}_{2n}^{\mathcal{U}} \stackrel{\text{vi}}{=} {}^n\mathbb{H}_n^{\mathcal{U}} \stackrel{\text{iii}}{=} 0 \swarrow {}^n\mathbb{C}_{\mathbb{H}_n}$$