

$$\begin{aligned}
{}^{\text{F}} \llcorner {}_{+} \Theta^1 \mathbb{J} &= \frac{\underset{\text{nexion}}{\underset{\text{+}}{\llcorner}} \Theta^1 \mathbb{J}}{\underset{\text{+}}{\llcorner} \star \underset{\text{+}}{\llcorner} \Theta^1 \mathbb{J}} = \underset{\text{+}}{\llcorner} \underset{\text{+}}{\llcorner} \star \underset{\text{+}}{\llcorner} \Theta^1 \mathbb{J} + \underset{\text{+}}{\llcorner} \star \underset{\text{+}}{\llcorner} \Theta^1 \mathbb{J} \\
&= \underset{\bigwedge_{t \in \text{F}} t \star t = 1}{\frac{\underset{\text{+}}{\llcorner} \underset{\text{+}}{\llcorner} 1 = \underset{\text{+}}{\llcorner} 1 + \underset{\text{+}}{\llcorner} t \star 1}{\bigwedge_{t \in \text{F}} t \star \underset{\text{+}}{\llcorner} \Theta^1 \mathbb{J} = \underset{\text{+}}{\llcorner} \underset{\text{+}}{\llcorner} \star \underset{\text{+}}{\llcorner} \Theta^1 \mathbb{J} + \underset{\text{+}}{\llcorner} \star \underset{\text{+}}{\llcorner} \Theta^1 \mathbb{J}}} \\
&\quad \underset{\text{+}}{\llcorner} - \underset{\text{+}}{\llcorner} \in {}^{\text{F}} \llcorner \Theta^1 \mathbb{J}
\end{aligned}$$

$$\begin{aligned}
&\underset{\text{+}}{\llcorner} \underset{\text{+}}{\llcorner} \star \underset{\text{+}}{\llcorner} + \underset{\text{+}}{\llcorner} \star \underset{\text{+}}{\llcorner} \underset{\text{+}}{\llcorner} \\
&= \underset{\text{+}}{\llcorner} \underset{\text{+}}{\llcorner} \star \underset{\text{+}}{\llcorner} - \underset{\text{+}}{\llcorner} \underset{\text{+}}{\llcorner} \star \underset{\text{+}}{\llcorner} + \underset{\text{+}}{\llcorner} \star \underset{\text{+}}{\llcorner} \underset{\text{+}}{\llcorner} - \underset{\text{+}}{\llcorner} \star \underset{\text{+}}{\llcorner} = \underset{\text{+}}{\llcorner} \star \underset{\text{+}}{\llcorner} - \underset{\text{+}}{\llcorner} \star \underset{\text{+}}{\llcorner} = 0 \Rightarrow \underset{\text{+}}{\llcorner} - \underset{\text{+}}{\llcorner} \in \Theta^1 \mathbb{J}
\end{aligned}$$

$$\begin{array}{ccc}
{}^{\text{F}} \llcorner {}_{+} \Theta^1 \mathbb{J} & & \\
& \downarrow d & \\
{}^{\text{F}} \llcorner \Theta^2 \mathbb{J} & &
\end{array}$$

$$\frac{d\mathbf{h}}{dt} = \mathbf{h} \times \mathbf{h} - \mathbf{r} \times \mathbf{r} \in \Theta | \mathbb{F}$$

$$\begin{aligned}
& \overbrace{\frac{d\mathbf{h}}{dt} \mathbf{h}}^{\mathbf{h}} \times \mathbf{h} = \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} - \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} - \underbrace{\mathbf{r} \times \mathbf{r}}_{\mathbf{h}} \times \mathbf{h} \\
&= \mathbf{h} \times \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} - \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} - \mathbf{h} \times \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} + \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} - \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} \times \mathbf{h} + \mathbf{h} \times \underbrace{\mathbf{r} \times \mathbf{r}}_{\mathbf{h}} \\
&= \mathbf{h}^{***} \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} - \mathbf{h}^* \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} - \mathbf{h}^{**} \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} + \mathbf{h} \times \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} \\
&\quad - \mathbf{h}^{***} \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} + \mathbf{h}^* \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} + \mathbf{h}^{**} \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} - \mathbf{h} \times \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} \\
&\quad - \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} \times \mathbf{h} + \mathbf{h} \times \underbrace{\mathbf{r} \times \mathbf{r}}_{\mathbf{h}} = \mathbf{h} \times \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} - \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} + \underbrace{\mathbf{h} \times \mathbf{h}}_{\mathbf{h}} = -\mathbf{h} \times \underbrace{\frac{d\mathbf{h}}{dt} \mathbf{h}}_{\mathbf{h}}
\end{aligned}$$