

$$\begin{aligned}
\mathcal{L}[\mathbf{X}_{i,j}[-1]] &:= \mathbf{T}_3^{-1} \mathbb{E}[\text{Plus}[ \\
&\sum_{v=1}^3 (\mathbf{x}_{vi} (\mathbf{p}_{vi^+} - \mathbf{p}_{vi}) + \mathbf{x}_{vj} (\mathbf{p}_{vj^+} - \mathbf{p}_{vj}) + (\mathbf{T}_v^{-1} - \mathbf{1}) \mathbf{x}_{vi} (\mathbf{p}_{vi^+} - \mathbf{p}_{vj^+})) , \\
&\mathbf{T}_2^{-1} (\mathbf{p}_{3j} \mathbf{x}_{1j} \mathbf{x}_{2i} - \mathbf{T}_1^{-1} \mathbf{p}_{3j} \mathbf{x}_{1i} \mathbf{x}_{2i}) , \\
&\in \mathbf{T}_1^{-1} ((\mathbf{T}_3 - \mathbf{1}) \mathbf{p}_{1j} \mathbf{p}_{2i} \mathbf{x}_{3i} - (\mathbf{T}_3 - \mathbf{1}) \mathbf{p}_{1j} \mathbf{p}_{2j} \mathbf{x}_{3i}) , \\
&\in (-\mathbf{1} / 2 + \mathbf{p}_{3i} \mathbf{x}_{3i} - \mathbf{T}_1^{-1} \mathbf{p}_{1j} \mathbf{p}_{2i} \mathbf{x}_{1i} \mathbf{x}_{2i} - (\mathbf{1} - \mathbf{T}_1^{-1} - \mathbf{T}_2^{-1}) \mathbf{p}_{1j} \mathbf{p}_{2j} \mathbf{x}_{1i} \mathbf{x}_{2i} - \\
&\mathbf{p}_{1j} \mathbf{p}_{2j} \mathbf{x}_{1j} \mathbf{x}_{2i} - \mathbf{p}_{1j} \mathbf{p}_{2j} \mathbf{x}_{1i} \mathbf{x}_{2j} + \mathbf{T}_1^{-1} \mathbf{p}_{1j} \mathbf{p}_{3i} \mathbf{x}_{1i} \mathbf{x}_{3i} - \\
&(\mathbf{1} - \mathbf{T}_2^{-1}) \mathbf{p}_{2j} \mathbf{p}_{3i} \mathbf{x}_{2i} \mathbf{x}_{3i} - \mathbf{p}_{2j} \mathbf{p}_{3i} \mathbf{x}_{2j} \mathbf{x}_{3i} + \mathbf{p}_{1j} \mathbf{p}_{3j} \mathbf{x}_{1i} \mathbf{x}_{3j} + \\
&\mathbf{p}_{2j} \mathbf{p}_{3j} \mathbf{x}_{2i} \mathbf{x}_{3j} + (\mathbf{1} - \mathbf{T}_3^{-1}) \mathbf{p}_{3j} \mathbf{x}_{3i} \\
&(\mathbf{p}_{2j} \mathbf{x}_{2j} + \mathbf{p}_{1j} \mathbf{x}_{1i} - \mathbf{p}_{2i} \mathbf{x}_{2i} + (\mathbf{2} - \mathbf{T}_2^{-1}) \mathbf{p}_{2j} \mathbf{x}_{2i}) + \\
&(\mathbf{T}_1 (\mathbf{1} - \mathbf{T}_2^{-1}) \mathbf{p}_{1i} \mathbf{p}_{2j} \mathbf{x}_{1i} \mathbf{x}_{2i} - \mathbf{p}_{1j} \mathbf{p}_{2i} \mathbf{x}_{1j} \mathbf{x}_{2i} + \mathbf{T}_1 \mathbf{p}_{1i} \mathbf{p}_{2j} \mathbf{x}_{1i} \mathbf{x}_{2j} - \\
&\mathbf{T}_2^{-1} (\mathbf{T}_3 - \mathbf{1}) \mathbf{p}_{1i} \mathbf{p}_{3j} \mathbf{x}_{1i} \mathbf{x}_{3i} + \mathbf{p}_{1j} \mathbf{p}_{3i} \mathbf{x}_{1j} \mathbf{x}_{3i} - \mathbf{T}_1 \mathbf{p}_{1i} \mathbf{p}_{3j} \mathbf{x}_{1i} \mathbf{x}_{3j}) / \\
&(\mathbf{T}_1 - \mathbf{1}) ] ]
\end{aligned}$$