

$$\begin{aligned}
\mathcal{L}[\mathbf{X}_{i_ , j_ }[\mathbf{s_}]] &:= \mathbf{T}_3^s \mathbb{E}[\mathbf{CF@Plus}[\\
&\sum_{v=1}^3 \left(\mathbf{x}_{vi} (\mathbf{p}_{vi^+} - \mathbf{p}_{vi}) + \mathbf{x}_{vj} (\mathbf{p}_{vj^+} - \mathbf{p}_{vj}) + (\mathbf{T}_v^s - 1) \mathbf{x}_{vi} (\mathbf{p}_{vi^+} - \mathbf{p}_{vj^+}) \right), \\
&(\mathbf{T}_1^s - 1) \mathbf{p}_{3j} \mathbf{x}_{1i} (\mathbf{T}_2^s \mathbf{x}_{2i} - \mathbf{x}_{2j}), \\
&\in \mathbf{s} (\mathbf{T}_3^s - 1) \mathbf{p}_{1j} (\mathbf{p}_{2i} - \mathbf{p}_{2j}) \mathbf{x}_{3i} / (\mathbf{T}_2^s - 1), \\
&\in \mathbf{s} \left(1 / 2 + \mathbf{T}_2^s \mathbf{p}_{1i} \mathbf{p}_{2j} \mathbf{x}_{1i} \mathbf{x}_{2i} - \mathbf{p}_{1i} \mathbf{p}_{2j} \mathbf{x}_{1i} \mathbf{x}_{2j} - \mathbf{p}_{3i} \mathbf{x}_{3i} - \right. \\
&\quad (\mathbf{T}_2^s - 1) \mathbf{p}_{2j} \mathbf{p}_{3i} \mathbf{x}_{2i} \mathbf{x}_{3i} + (\mathbf{T}_3^s - 1) \mathbf{p}_{2j} \mathbf{p}_{3j} \mathbf{x}_{2i} \mathbf{x}_{3i} + \\
&\quad 2 \mathbf{p}_{2j} \mathbf{p}_{3i} \mathbf{x}_{2j} \mathbf{x}_{3i} + \mathbf{p}_{1i} \mathbf{p}_{3j} \mathbf{x}_{1i} \mathbf{x}_{3j} - \mathbf{p}_{2i} \mathbf{p}_{3j} \mathbf{x}_{2i} \mathbf{x}_{3j} - \\
&\quad \mathbf{T}_2^s \mathbf{p}_{2j} \mathbf{p}_{3j} \mathbf{x}_{2i} \mathbf{x}_{3j} + \\
&\quad \left((\mathbf{T}_1^s - 1) \mathbf{p}_{1j} \mathbf{x}_{1i} (\mathbf{T}_2^{2s} \mathbf{p}_{2j} \mathbf{x}_{2i} - \mathbf{T}_2^s \mathbf{p}_{2j} \mathbf{x}_{2j} - \right. \\
&\quad \quad (\mathbf{T}_2^s + 1) (\mathbf{T}_3^s - 1) \mathbf{p}_{3j} \mathbf{x}_{3i} + \mathbf{T}_2^s \mathbf{p}_{3j} \mathbf{x}_{3j}) + \\
&\quad \left. (\mathbf{T}_3^s - 1) \mathbf{p}_{3j} \mathbf{x}_{3i} (1 - \mathbf{T}_2^s \mathbf{p}_{1i} \mathbf{x}_{1i} + \mathbf{p}_{2i} \mathbf{x}_{2j} + (\mathbf{T}_2^s - 2) \mathbf{p}_{2j} \mathbf{x}_{2j}) \right) / \\
&\quad \left. (\mathbf{T}_2^s - 1) \right) \Big] \Big]
\end{aligned}$$