$$
\begin{cases}
\boldsymbol{F}_{i+\frac{1}{2},j,k} = \boldsymbol{F}^{L}_{i+\frac{1}{2},j,k} & \text{if } u_{i+\frac{1}{2},j,k} > 0 \\
\boldsymbol{F}_{i+\frac{1}{2},j,k} = \dfrac{1}{2}\left(\boldsymbol{F}^{L}_{i+\frac{1}{2},j,k} + \boldsymbol{F}^{R}_{i+\frac{1}{2},j,k}\right) & \text{if } u_{i+\frac{1}{2},j,k} = 0 \\
\boldsymbol{F}_{i+\frac{1}{2},j,k} = \boldsymbol{F}^{R}_{i+\frac{1}{2},j,k} & \text{if } u_{i+\frac{1}{2},j,k} < 0
\end{cases}
$$