$$\tau_{\mathrm{mod}}(\mathbf{s}, \mathbf{v}) \equiv \begin{cases} \frac{\mathtt{DTHR}^2 - \mathbf{s}^2}{\mathbf{s} \cdot \mathbf{v}} & \text{if } \mathbf{s} \cdot \mathbf{v} < 0, \\ -1 & \text{otherwise.} \end{cases}$$