Dingzeyu Li

COLUMBIA COMPUTER GRAPHICS GROUP

Oct 24, 2017

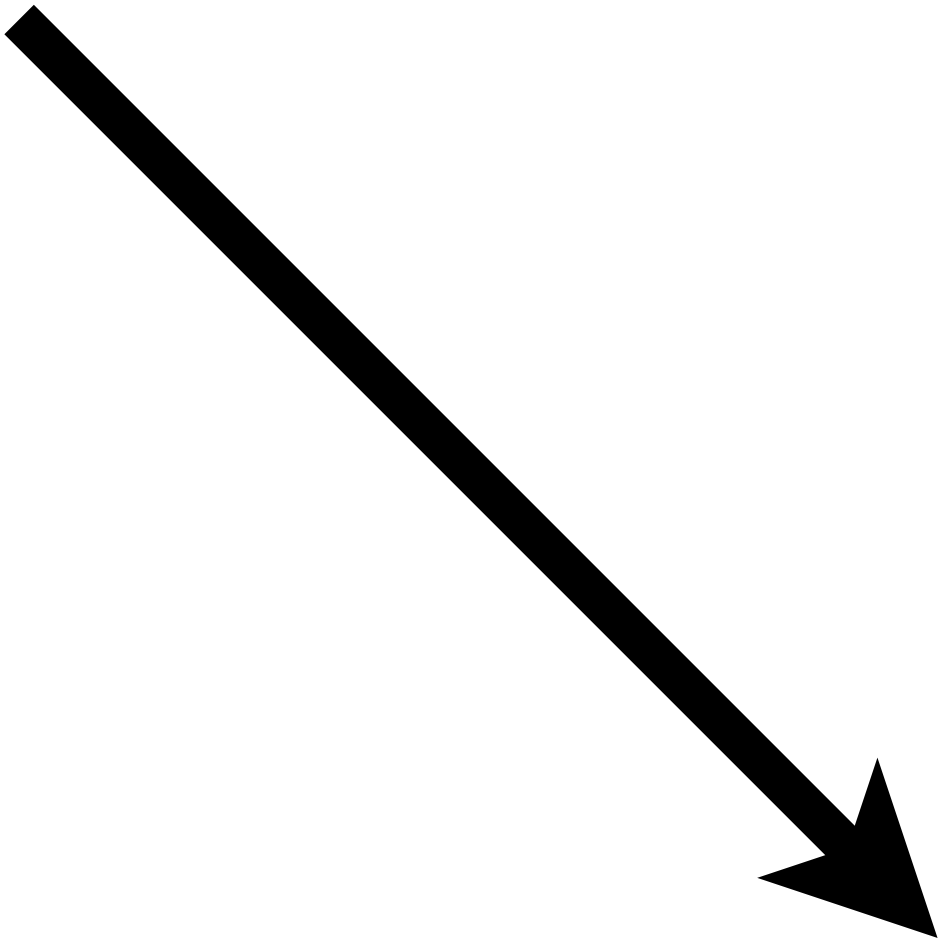
Layered Scattering Model

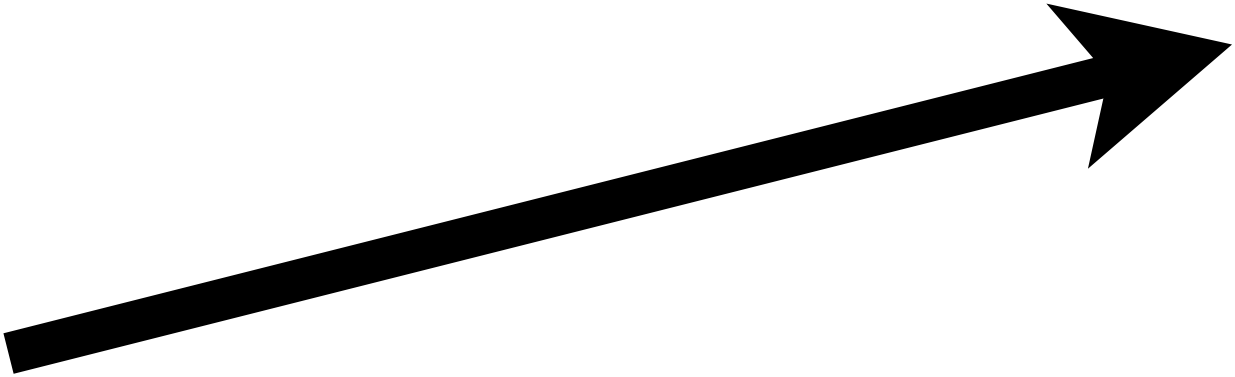
22

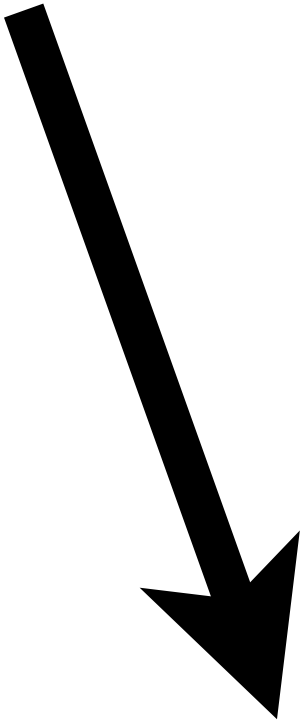
[Donner and Jensen, SIGGRAPH 2005]

$$\begin{aligned}\mathcal{T}_{12} &= \mathcal{T}_1\mathcal{T}_2+\mathcal{T}_1\mathcal{R}_2\mathcal{R}_1\mathcal{T}_2+\mathcal{T}_1\mathcal{R}_2\mathcal{R}_1\mathcal{R}_2\mathcal{R}_1\mathcal{T}_2+\ldots \\ &= \mathcal{T}_1\mathcal{T}_2(1+\mathcal{R}_2\mathcal{R}_1+(\mathcal{R}_2\mathcal{R}_1)^2+(\mathcal{R}_2\mathcal{R}_1)^3+\ldots),\end{aligned}$$

Reflection profile







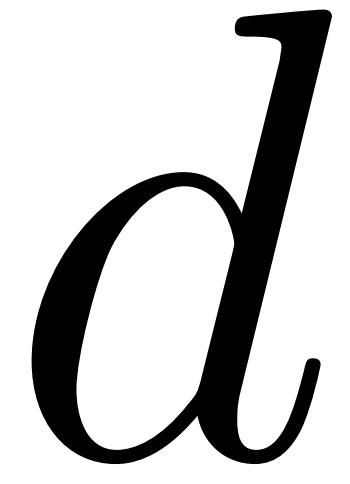
Transmission profile

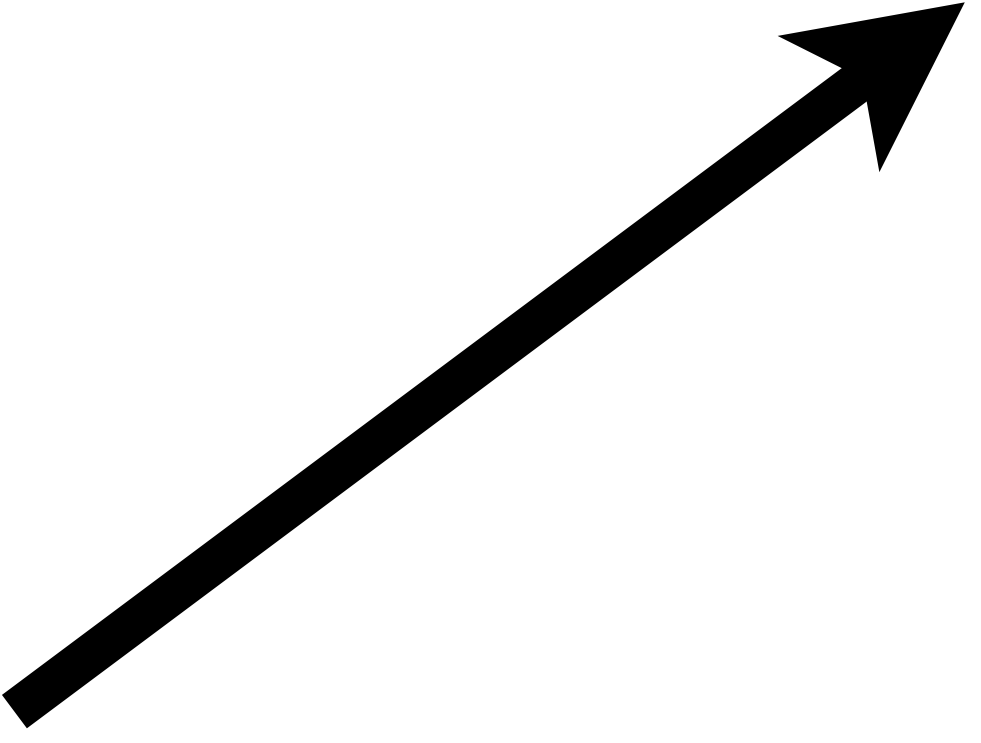
- multi-layer reflection profile

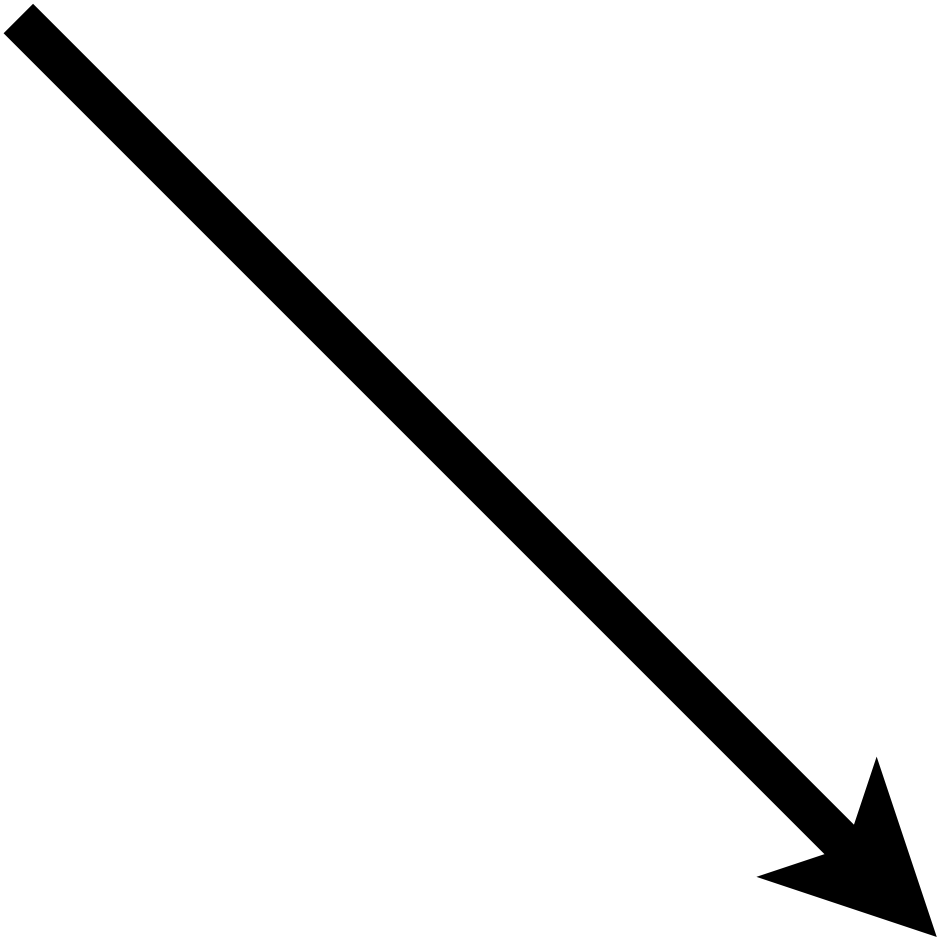
$R(d)$

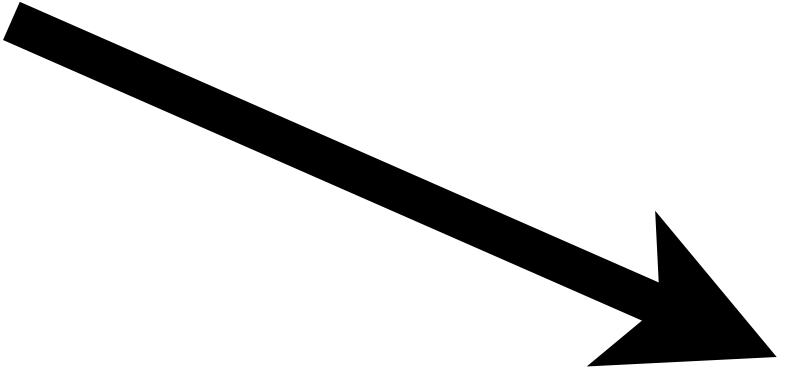
$T(d)$

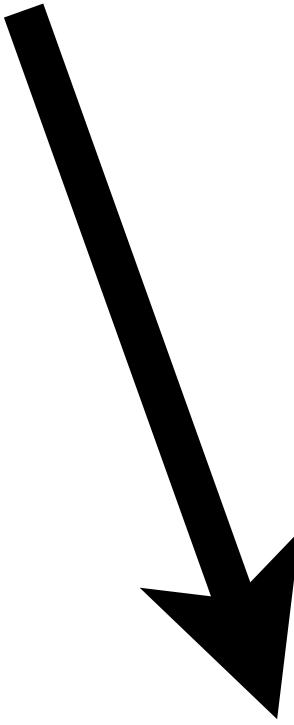
$R(d), T(d) \in [0,1]$

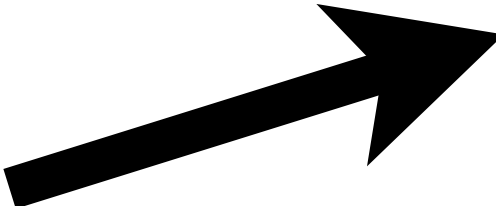


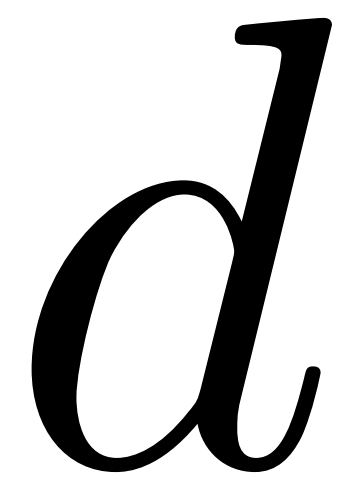






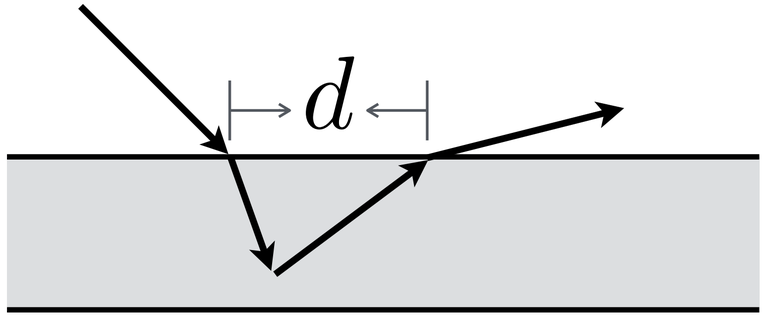




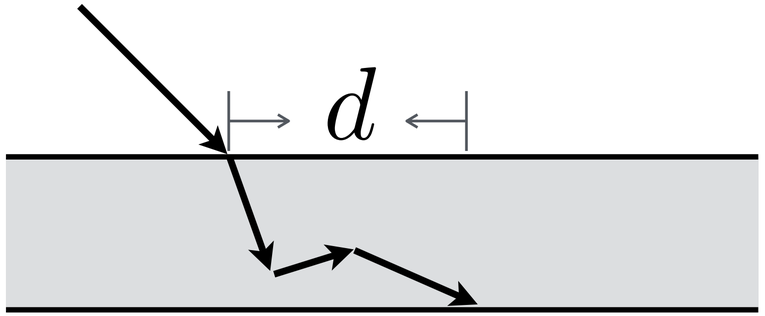


Layered Scattering Model

Reflection profile $R(d)$



Transmission profile $T(d)$

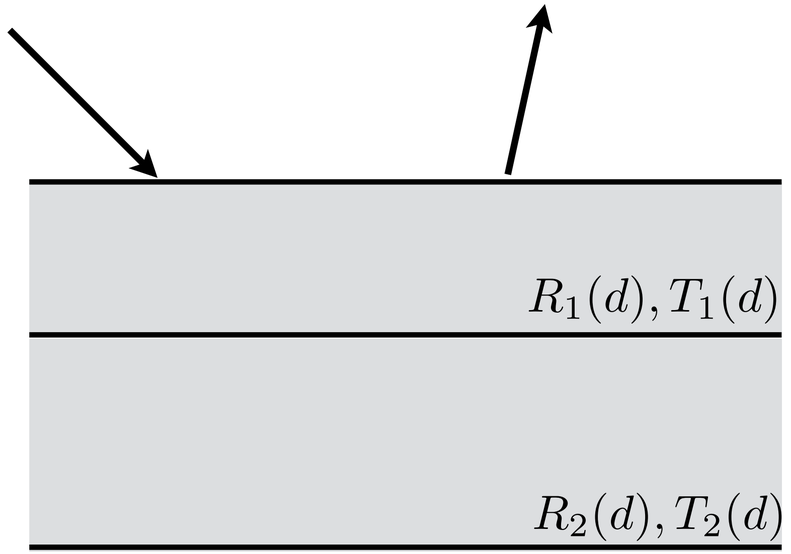


- multi-layer reflection profile

[Donner and Jensen, SIGGRAPH 2005]

Multi-Layer Profile

$$R(d) =$$



[Donner and Jensen, SIGGRAPH 2005]