

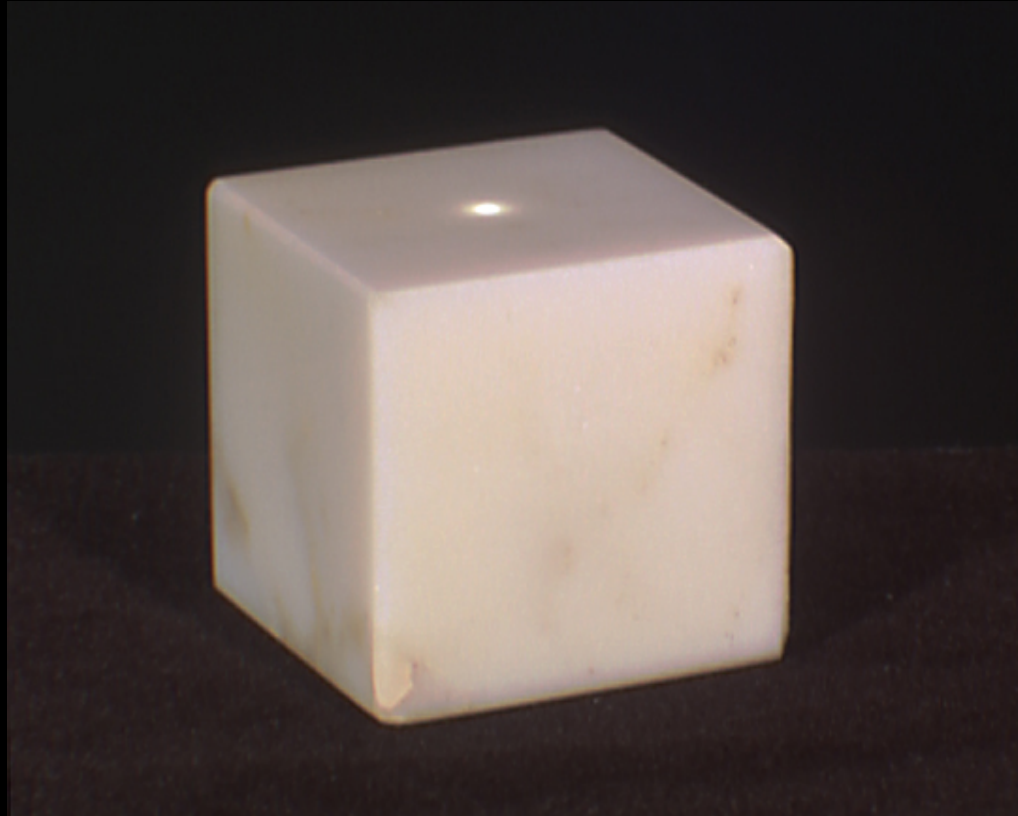
BSSRDF Models

CS6630 Spring 2012

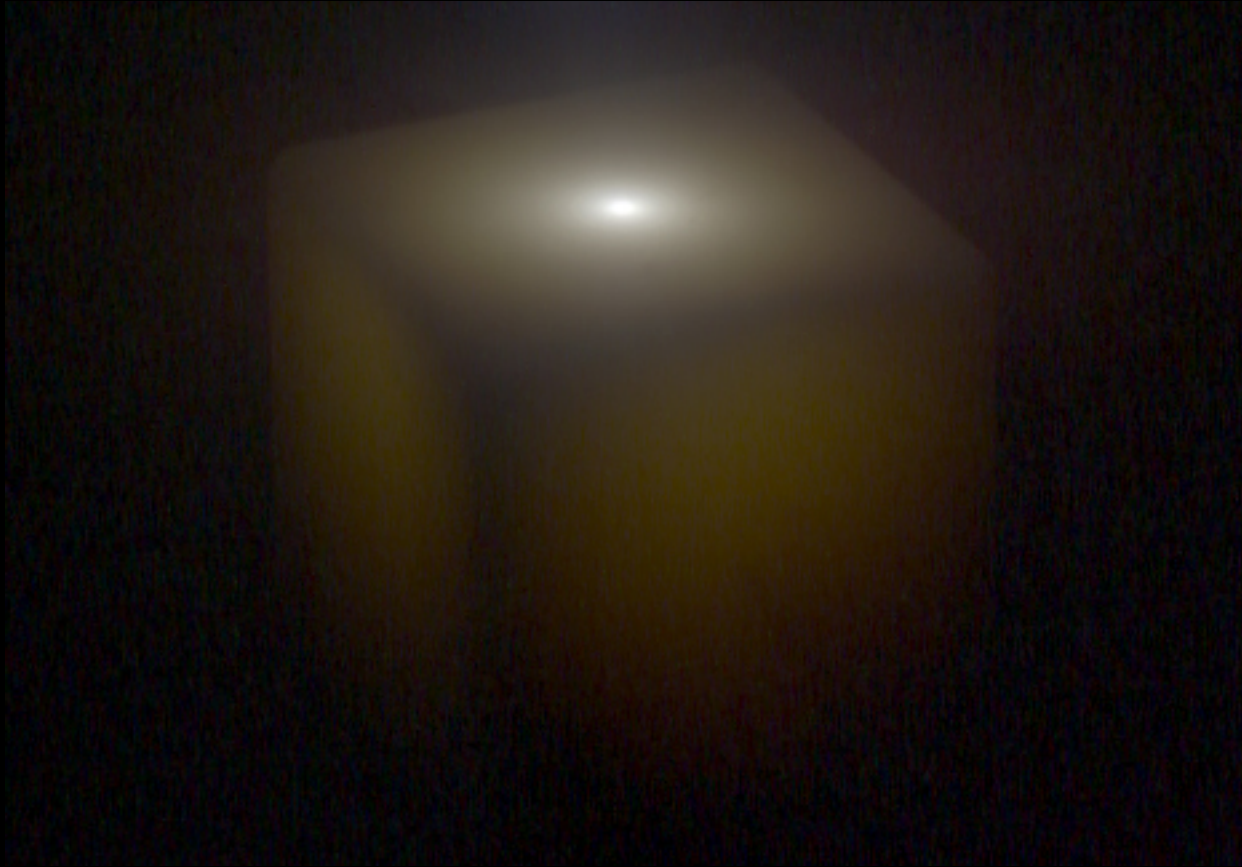
Steve Marschner, Cornell University



Marble sample

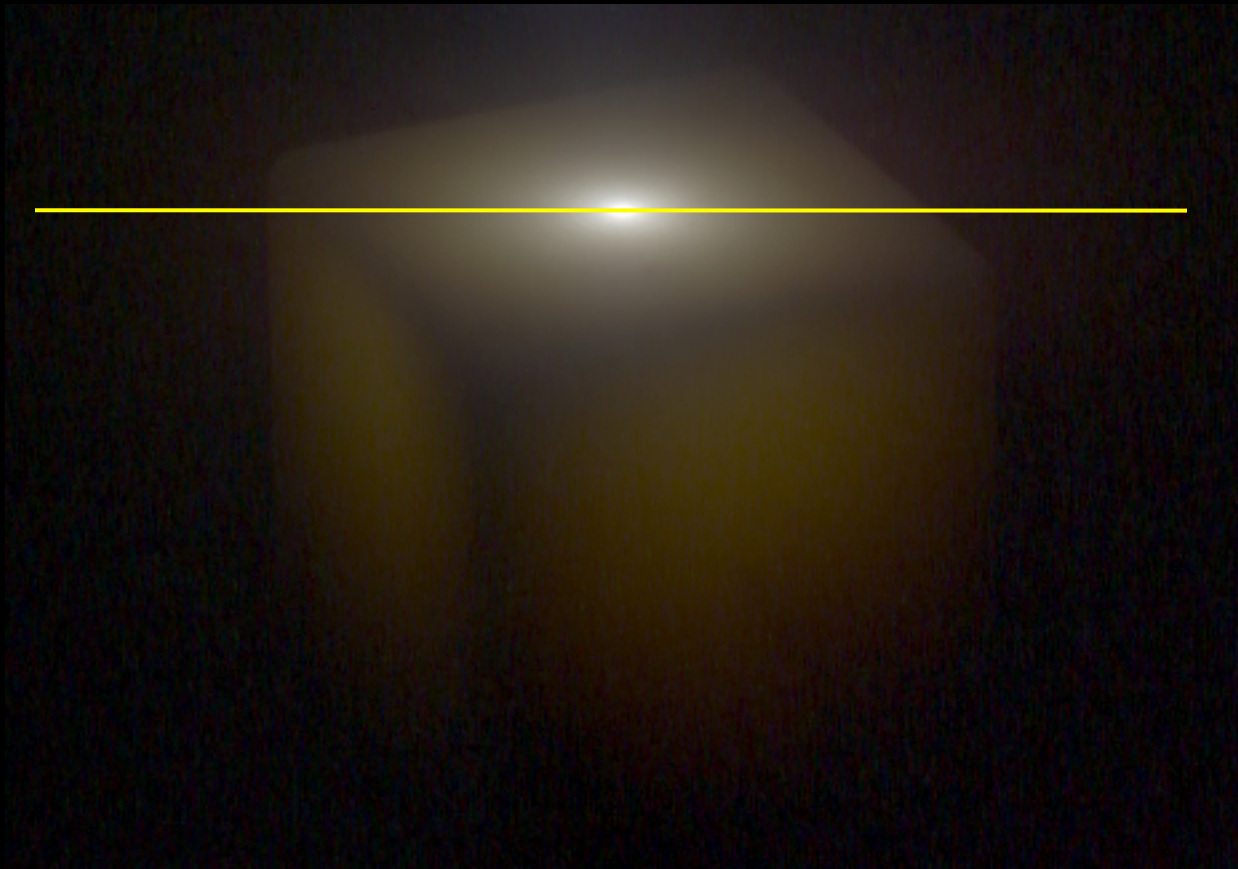


HDR photograph



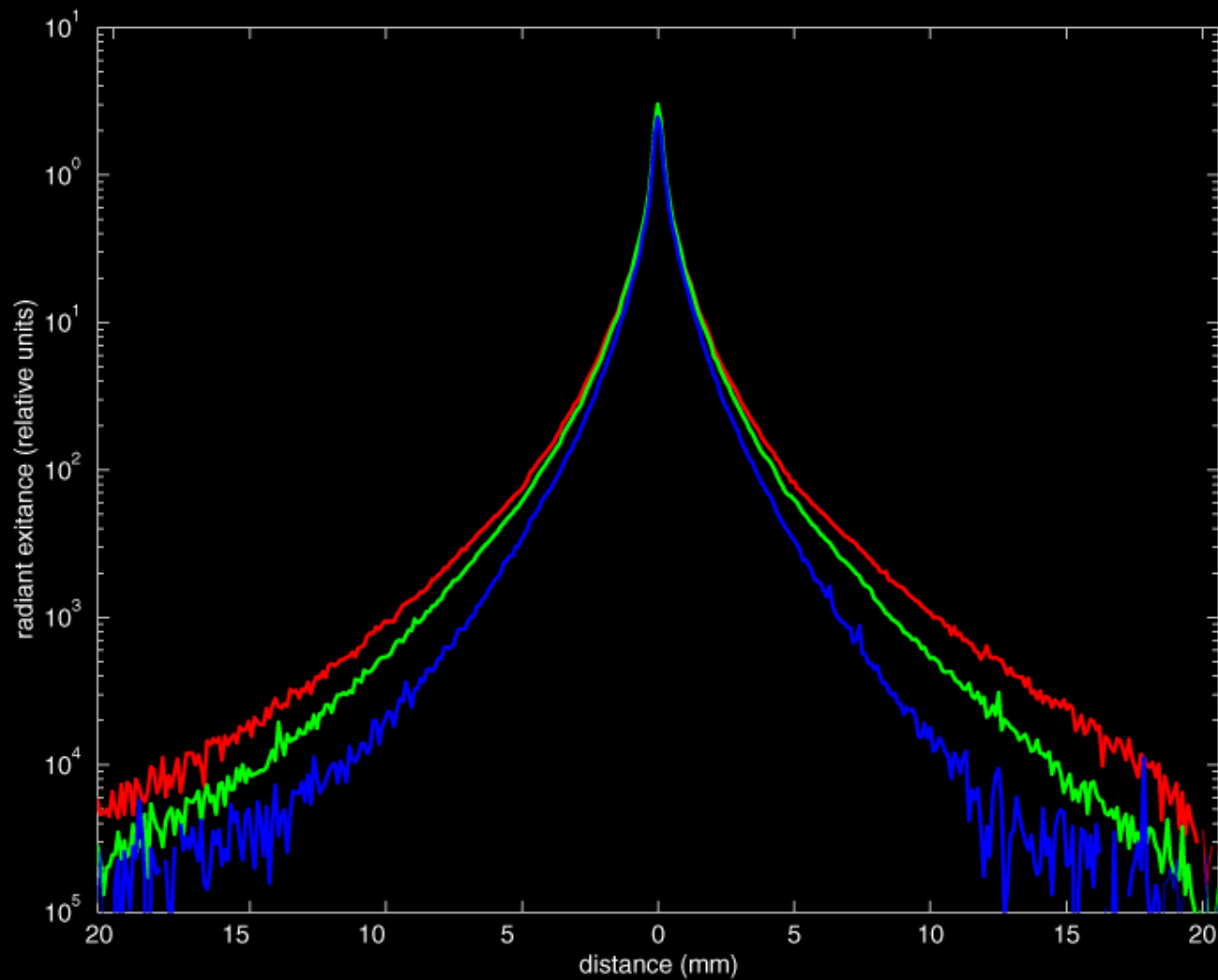
(log scaled image)

HDR photograph

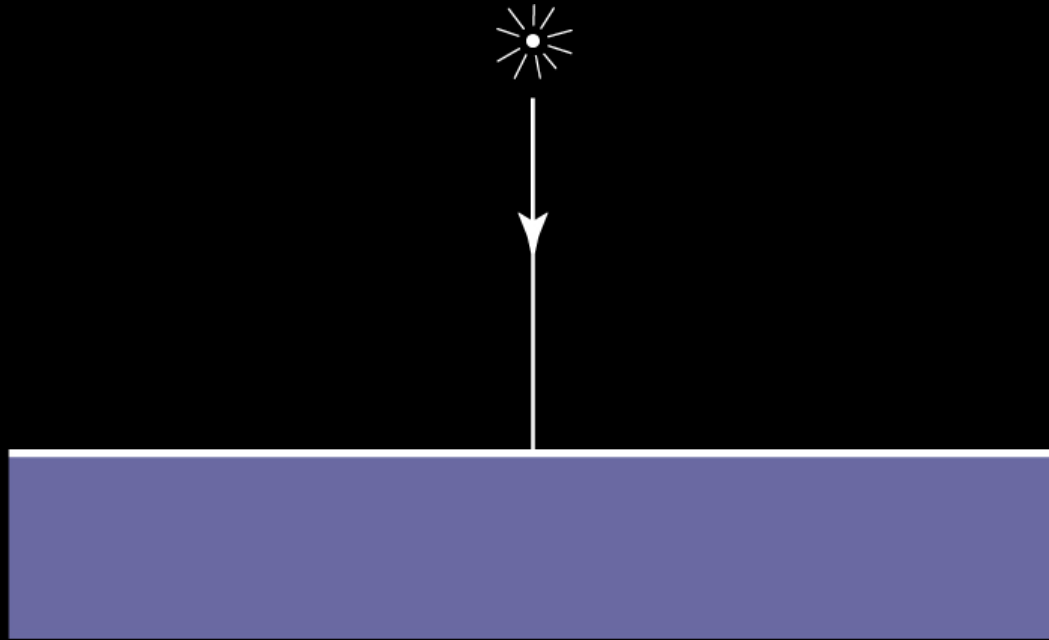


(log scaled image)

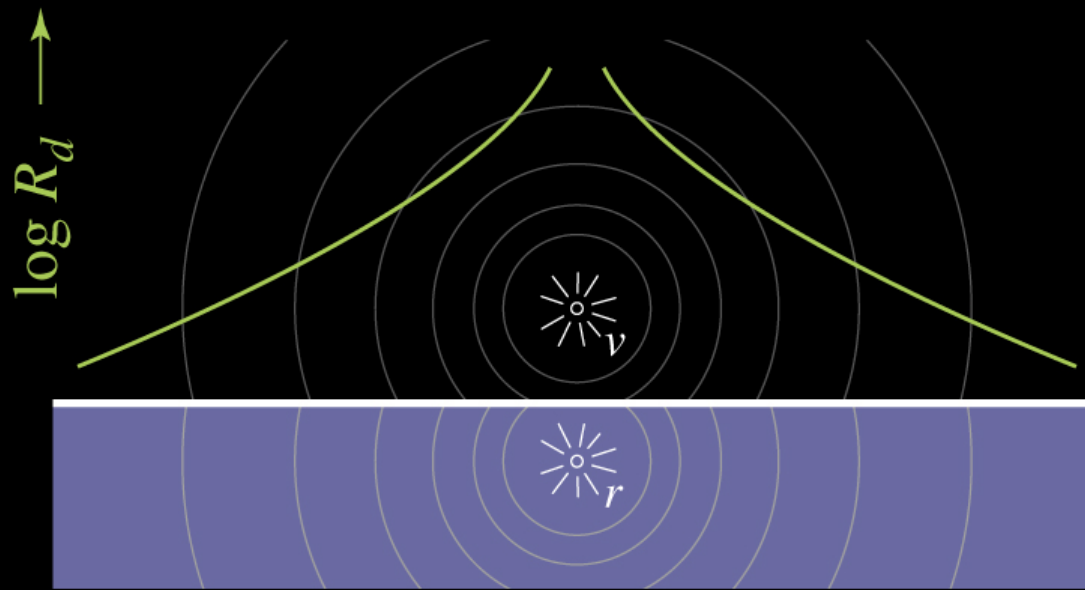
Marble



Diffusion approximation



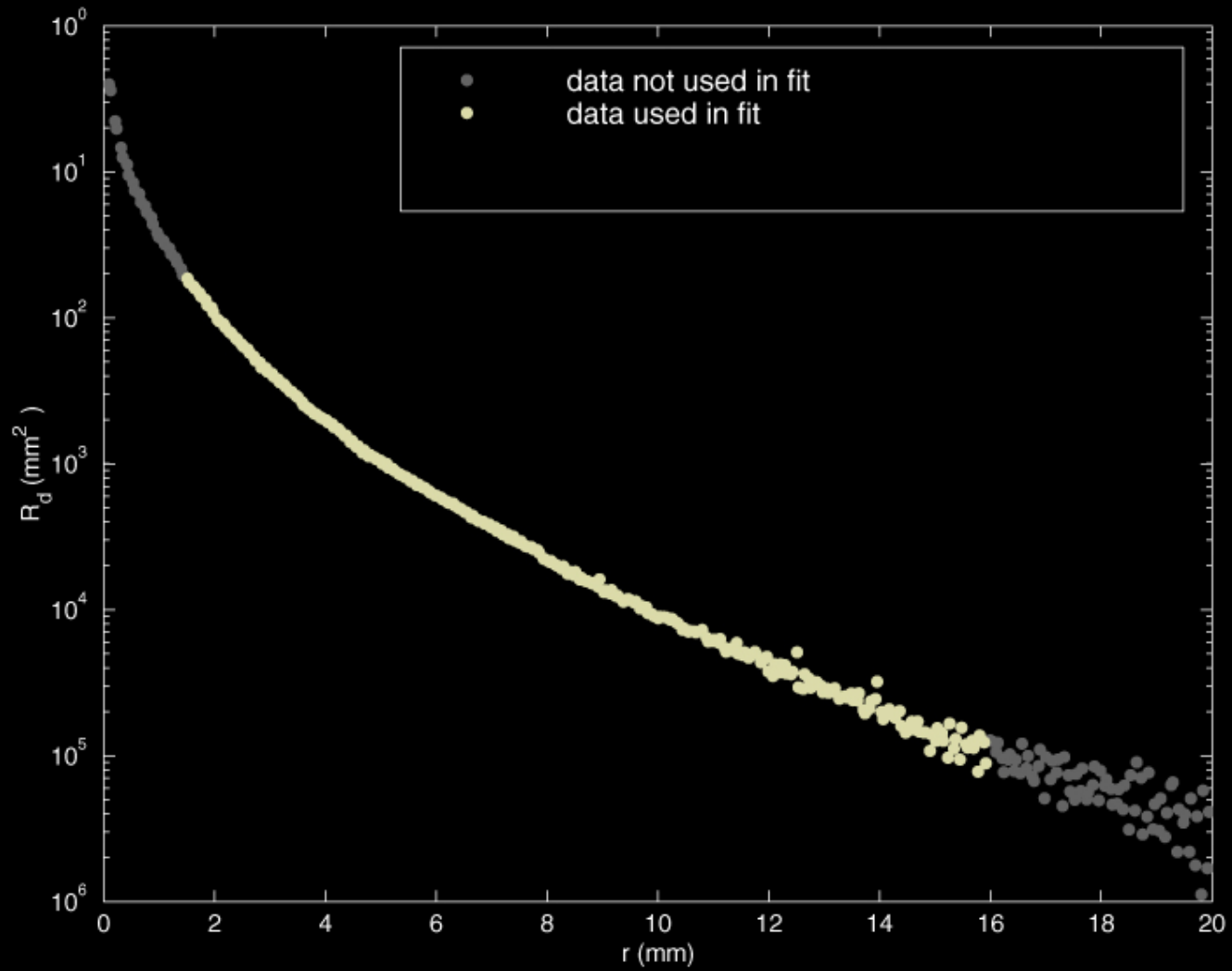
Diffusion approximation



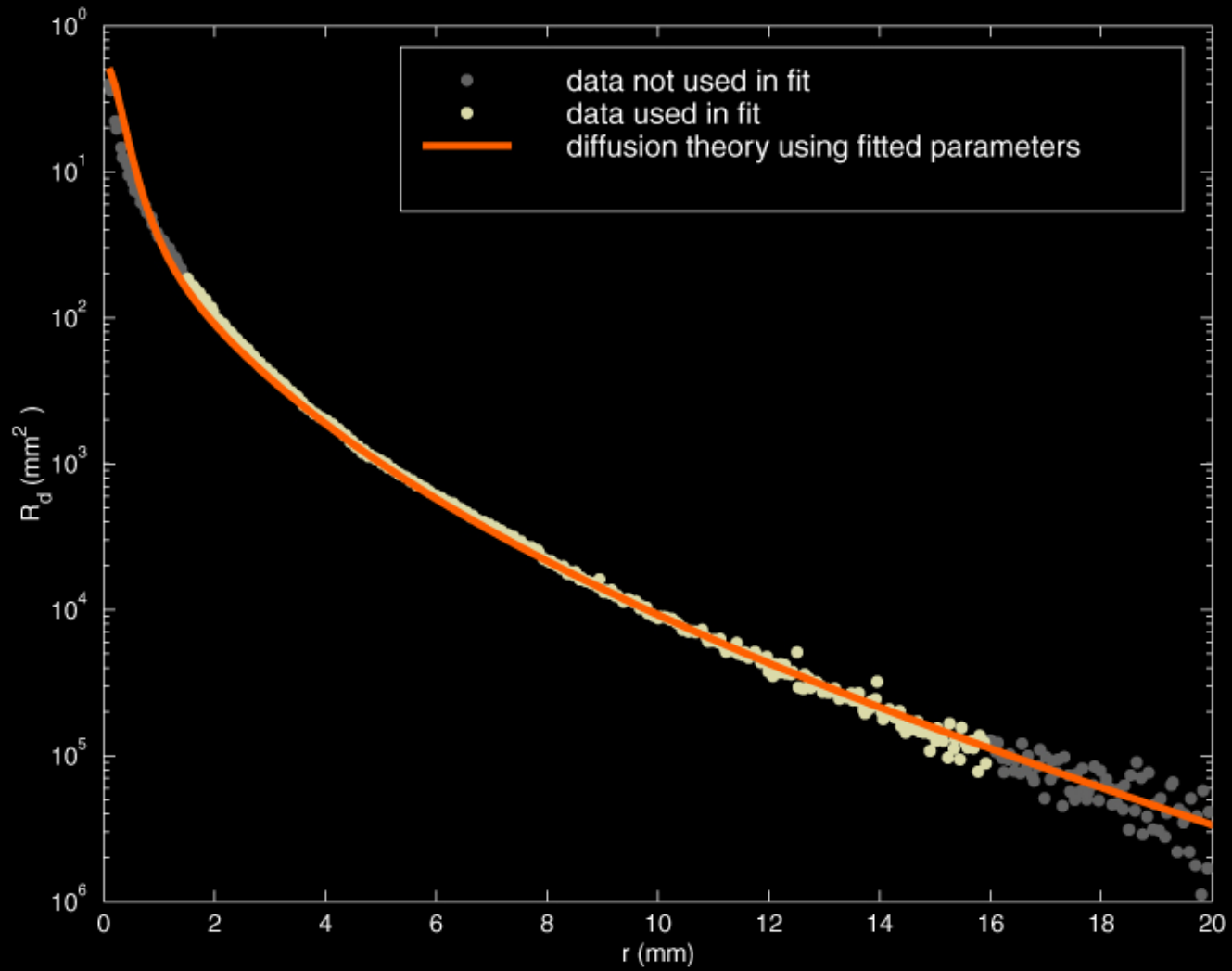
$$R_d = k_r \frac{e^{-\sigma d_r}}{d_r^3} + k_v \frac{e^{-\sigma d_v}}{d_v^3}$$

Henrik Wann Jensen, Stephen R. Marschner, Marc Levoy, and Pat Hanrahan. "A Practical Model for Subsurface Light Transport." SIGGRAPH 2001.

Marble data fitting



Marble data fitting



Results: milk



Diffuse “milk”

Results: milk



Diffuse "milk"



Skim milk

Results: milk



Diffuse “milk”



Skim milk



Whole milk

Results: skin



opaque skin



translucent skin