

PARTICLES 2

Friday, April 09, 2010
2:31 PM

Today: Particles
Visibility
Generation

Time log?

Improve teams
Pairs of friends
Proposals to work on specific techniques
Provide blocks of time, let students sign up
Try different ideas, then get feedback

3) Need HIGH VISIBILITY

Particles - only scatter light

Depends on size - compared to λ of light

Diameter $\sim > \lambda$ Mie scattering

λ visible = 400 - 700 nm
 .4 - .7 μm]

Stage fog, smoke $\sim 1 \mu\text{m}$ dia

$\sim 1 \mu\text{m}$, less light is scattered

BUT - Tracks flow well, regardless of δ

dia $< \lambda \Rightarrow$ Rayleigh scattering

\hookrightarrow sky blue

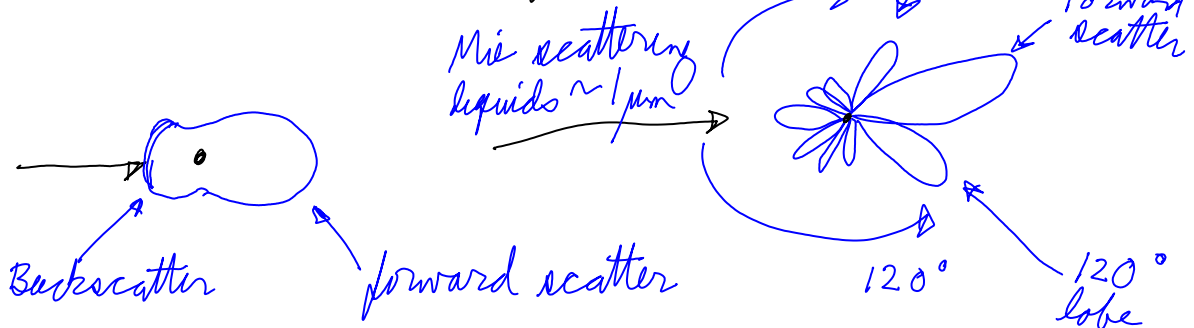
Elastic = photons just

bounce no energy exchange
Scattering efficiency drops

Best to stay Mie regime

120° /

Best to stay ^{optimal} Mie regime



For small particles $\sim 1 \mu\text{m}$

Color doesn't matter — use the color LIGHT that you want

Particles large enough to have intrinsic color don't follow flow well.