

SHADING

PHONG SHADING

- Non-physically based way to create view-dependent highlights
- For each surface point, uses the angle between the direction towards the eye (V), reflected direction (R) of the light direction (L) about the surface normal (N)

- $$\vec{R} = 2 \left(\vec{L} \cdot \vec{N} \right) \vec{N} - \vec{L}$$

(all vectors are assumed normalized)

- Then, the light information is given by:

$$I = k_a + k_d \left(\vec{L} \cdot \vec{N} \right) + k_s \left(\vec{R} \cdot \vec{V} \right)^\alpha$$

with constants for ambient (k_a), diffuse (k_d), and specular (k_s) lighting

- α determines the level (=size) of specular highlights

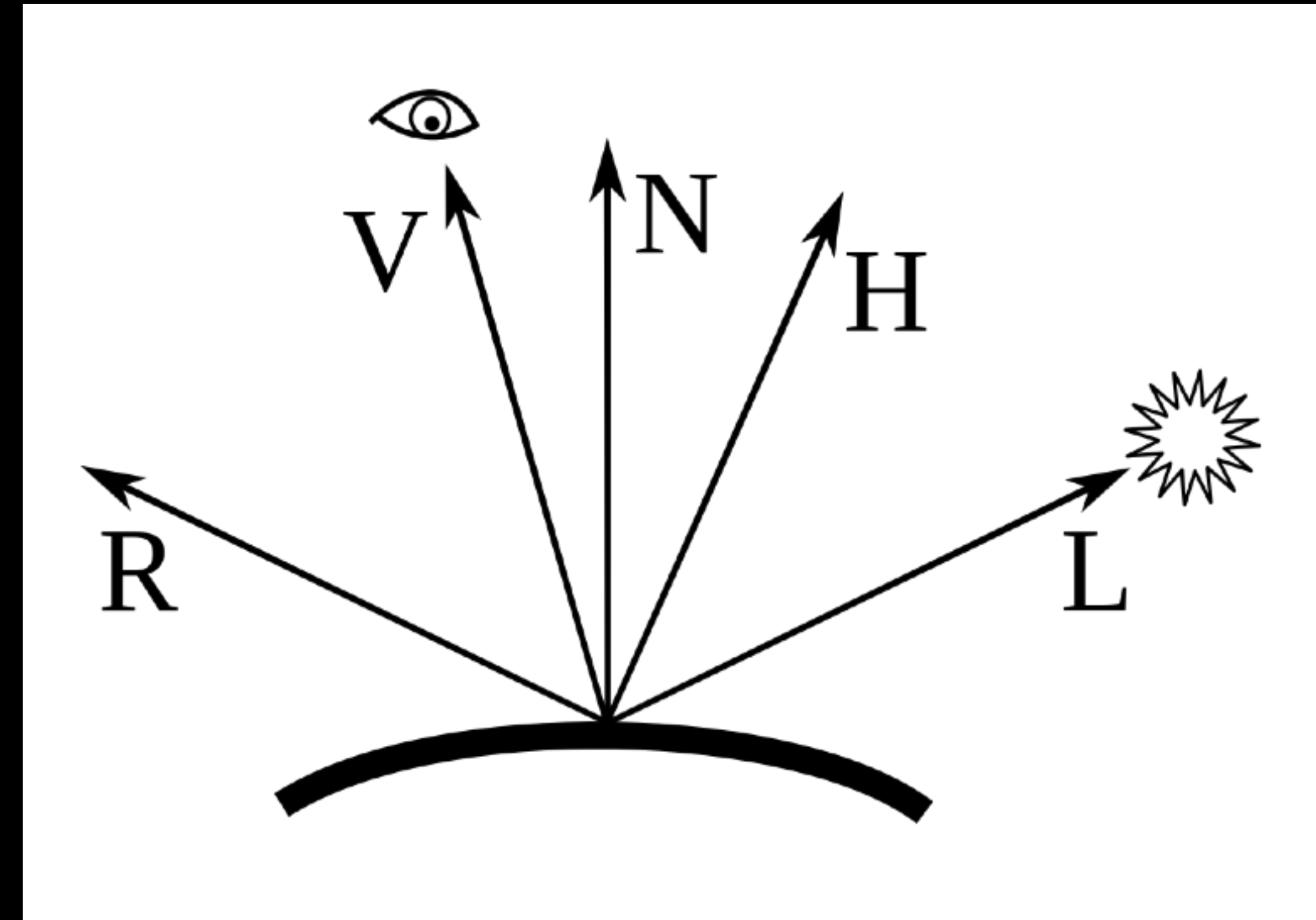


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