

# CS580 HW1

Instructor: Sung-eui Yoon

Due day: 4:00pm, Apr-11 (Thur.)

1. Prove invariance of radiance,  $L(x \rightarrow y) = L(y \leftarrow x)$

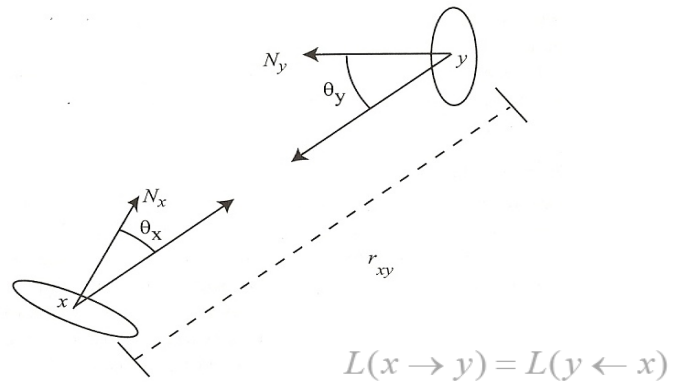


Figure 2.3. Invariance of radiance.

2. Consider a square area light source with a surface area measuring  $10 \times 10 \text{ cm}^2$ . Each point on the light source emits radiance according to the following function over its hemisphere:

$$L(x \rightarrow \Theta) = 1000 \cos\theta \text{ (W/sr}\cdot\text{m}^2)$$

- Compute radiosity for each point in the light source
- Compute the power for the entire light source.