

Radiometry

Assuming the sun as a point light source with a total radiant flux of 3.86×10^{26} Watt, what is the Irradiance outside the atmosphere of Mars at the equator?

Assuming a perfect solar collector stationed outside the atmosphere (that transforms all incoming light into electricity), how much area does it need to cover to replace the world's largest nuclear power plant (Kashiwazaki-Kariwa, Japan, 8212MW)?

Hints:

- Consult http://candela.stanford.edu/lectures/09_radiometry/radiometry_slides.pdf
- Consult PBRT 5.5.3
- The final answer is $\sim 13.5 \text{ km}^2$



How to submit via email

The result has to be sent to **BOTH** of us in an email. Either as text in the email or as an attachment to it.

The format of both the email **SUBJECT** and the attachment **FILENAME** has to be as follows:

[Rendering_SS2015_(\$assignment_number)]_(\$your_matriculation_number),(\$your_name)

e.g. [Rendering_SS2015_0]_0123456,John Doe



Deadline
24.03.2015 23:59

