Week 5 weekly submission

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Irridiation
Incident radiation that affects the bodies.

Radiosity
Sum between radiation emitted and radiation reflected by the surface.

Emissivity
Ratio between radiation emitted by a surface at a given temperature to the radiation emitted by a black body with the same temperature. It is a measure how a body approximates a black body.

Absorptivity
Amount of energy absorbed by a body.

Reflectivity
Amount of energy reflected by a body.

Transmissivity
Amount of energy transmitted through a body.

View Factor
Emission generated at a certain body and emission received by another body.

Radiation Heat Transfer, Black Surface
Radiation heat transfer from one surface to another.

Radiation Heat Transfer, Grey Surface
Sum between reflected radiation and emitted radiation by a body.

Net Radiation Heat Transfer
The difference between the radiation emitted by a surface and the radiation absorbed by the other surface.

Radiative Resistance
Resistance produced by the media to the transfer radiation.

Net Radiative Heat Exchange Between Two Parallel Plates

$$Q_{12} = \frac{A\sigma\,(T_1^4 - T_2^4)}{\frac{1}{\epsilon_1} + \frac{1}{\epsilon_1} - 1} = \frac{1.5 * 5.67\,x\,10^{-8}\,(308^4 - 298^4)}{\frac{1}{0.2} + \frac{1}{0.7} - 1} = 17.4379\ \frac{W}{m^2}$$

$$Q_{12} = \frac{A\sigma\,(T_1^4 - T_2^4)}{\frac{1}{\epsilon_1} + \frac{1}{\epsilon_1} - 1} = \frac{1.5 * 5.67\,x\,10^{-8}\,(308^4 - 298^4)}{\frac{1}{0.1} + \frac{1}{0.1} - 1} = 4.9823\ \frac{W}{m^2}$$

Conclusion
The emissivity of the surface is directly proportional to the net radiative heat exchange. The higher the emissivity of the surface is, the higher is the radiative heat exchange.