

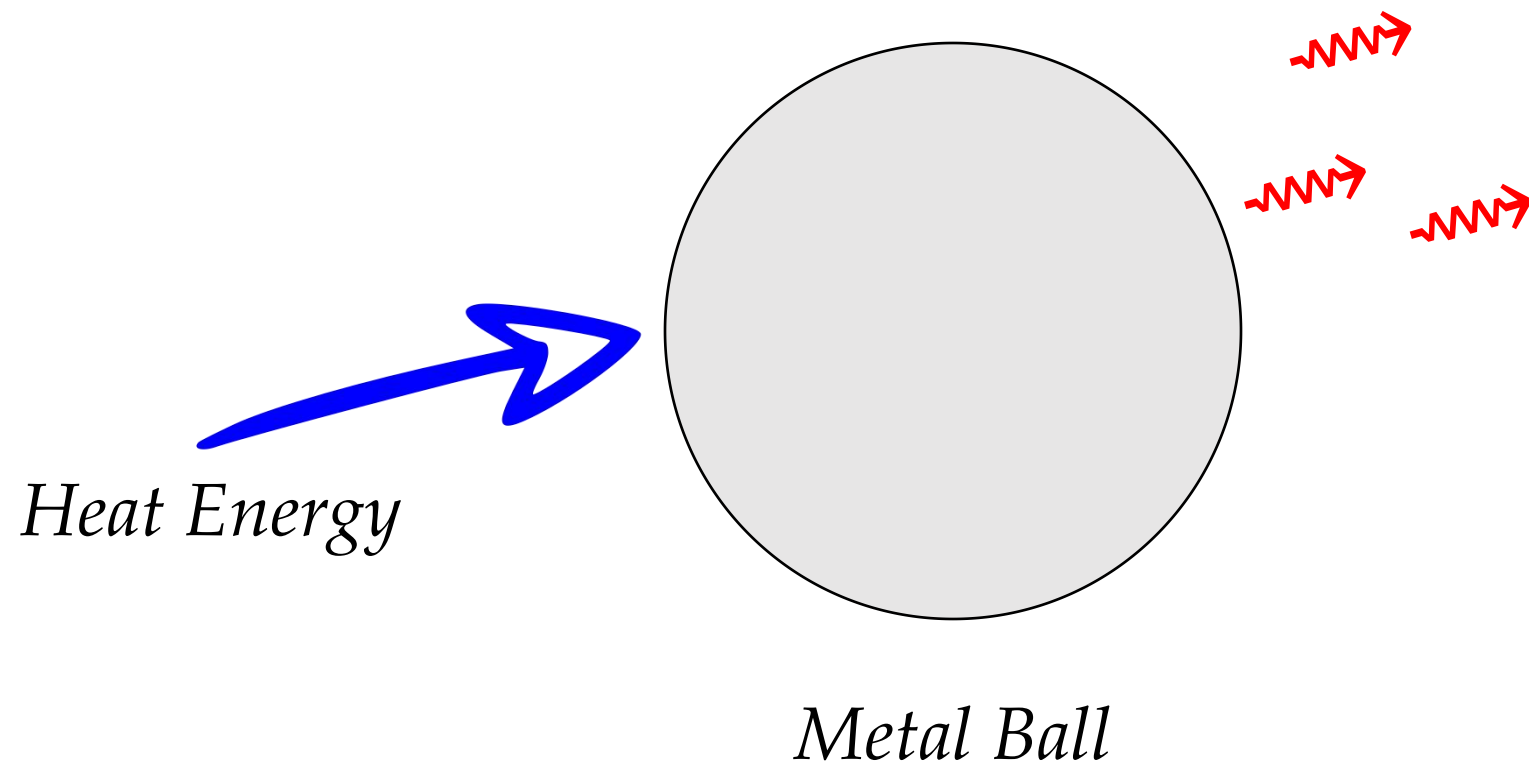
# Radio Astronomy 101

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# Day 3 : Blackbody Equation and Signals

Q1:  
*What is a Blackbody?*



## *Planck's Law*

$$B_f(T) = \frac{8\pi f^2}{c^3} \frac{hf}{e^{\frac{hf}{kT}} - 1}$$

*Humans and Stars  
aren't ideal Blackbody.*

*But...*

*Sun can be treated as one.*

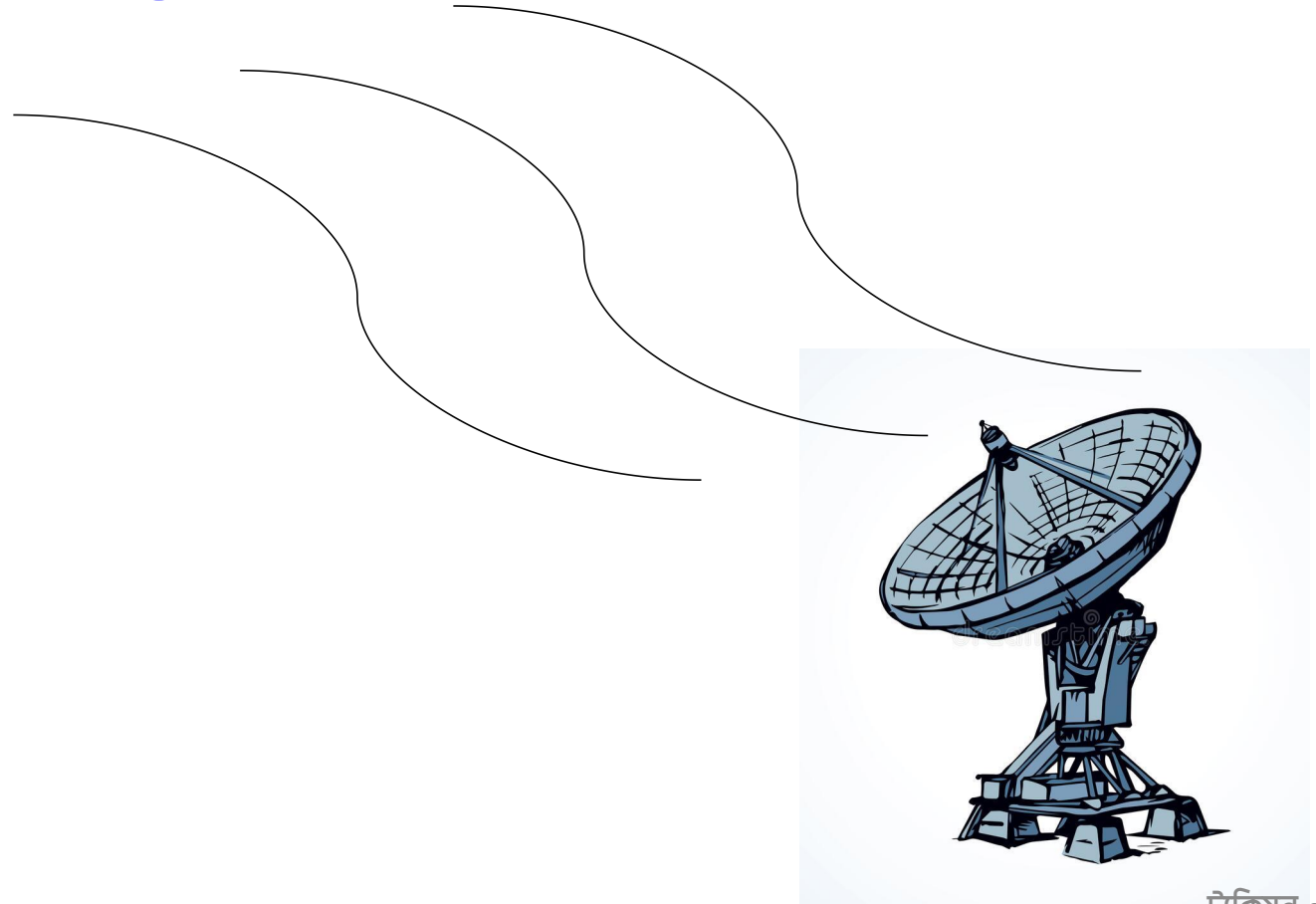


Much of a person's energy is radiated away in the form of infrared light. Some materials are transparent in the infrared, but opaque to visible light, as is the plastic bag in this infrared image (bottom). Other materials are transparent to visible light, but opaque or reflective in the infrared, noticeable by the darkness of the man's glasses.

Q2:  
*What is a Signal?*



*Signal : Wave that carries Information*  
*System: Process the Signal*



*Any Questions?*