

# AIRBORNE GEOSPATIAL TECHNOLOGIES – DEFINITIONS OF TERMS AND PRINCIPLES

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*Supporting the airborne data acquisition and mapping industries*



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# Remote Sensing



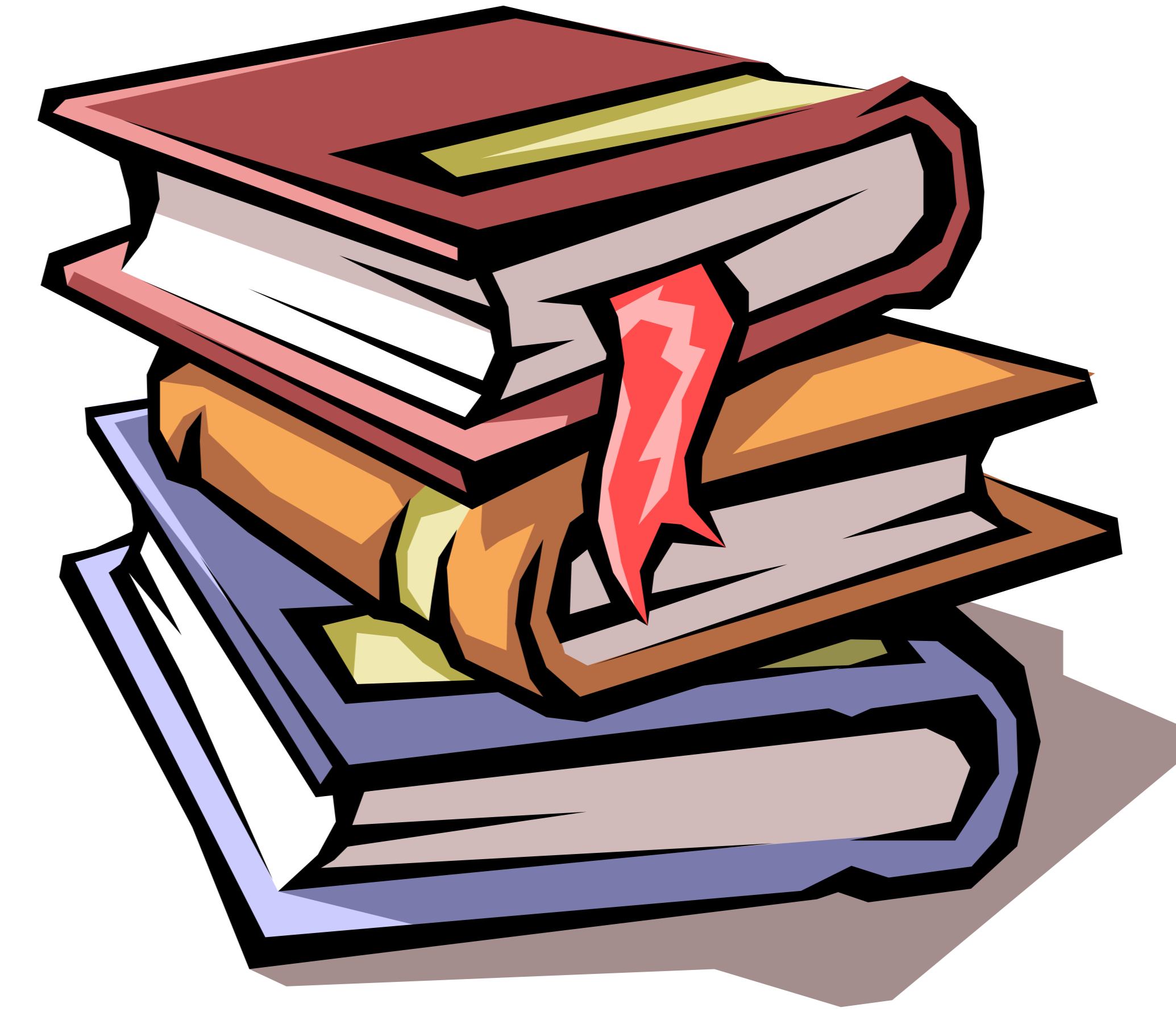
Remote Sensing (RS) is the science of deriving information about the earth's land and water areas from images acquired at a distance, usually from satellites and aircraft (Campbell, 1987)

# Geographic Information Systems

Geographic Information Systems (GIS) are systems for capturing, storing, checking, manipulating, analysing and displaying data which are spatially referenced to the earth (United Kingdom Department of Environment, 1987)



# Supporting Disciplines



“photography”

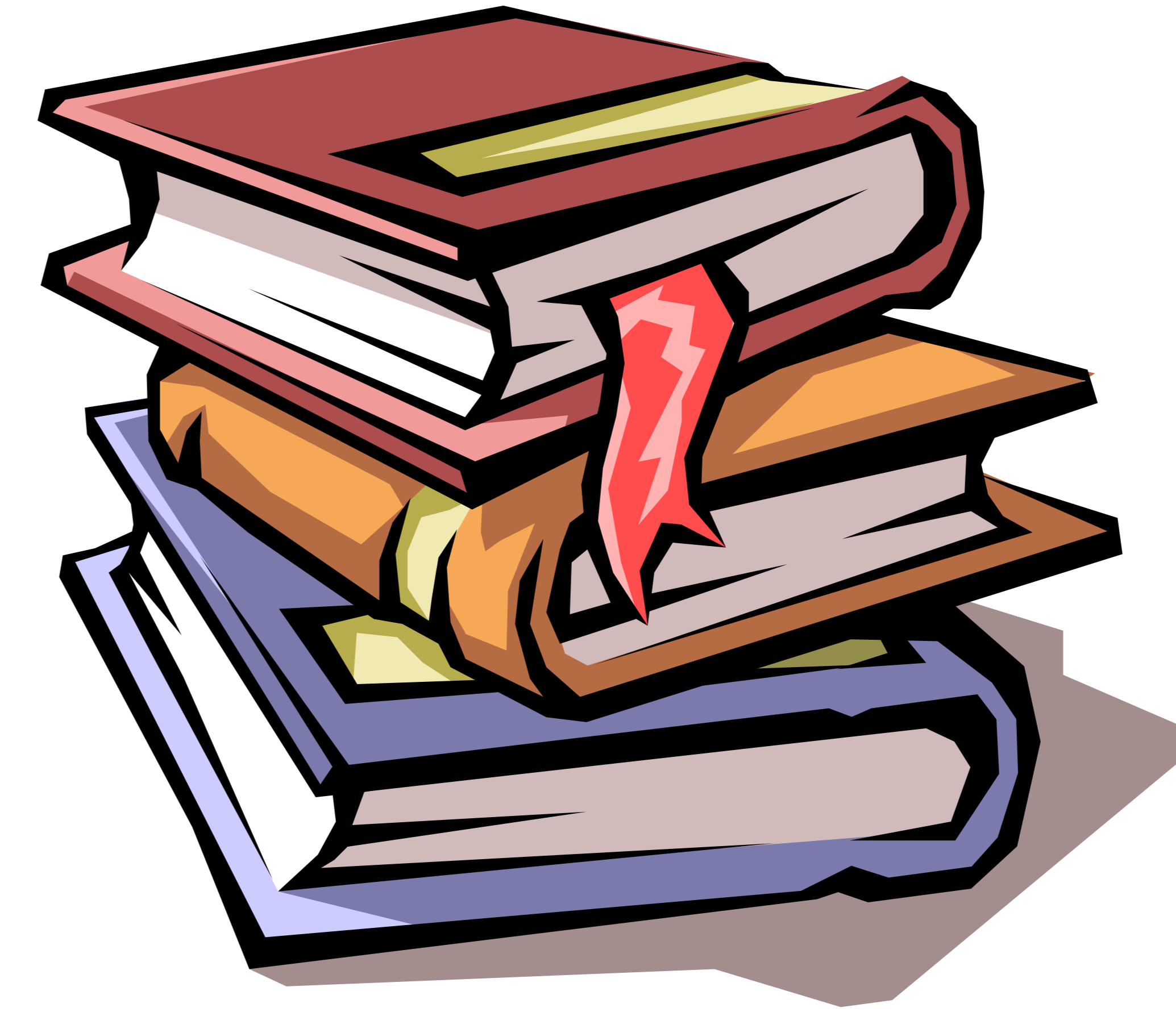
Greek (phos) meaning “light”

Greek (graphien) meaning “writing”

“surveying”

practice of measuring altitudes, angles and distances on the land surface

# Supporting Disciplines



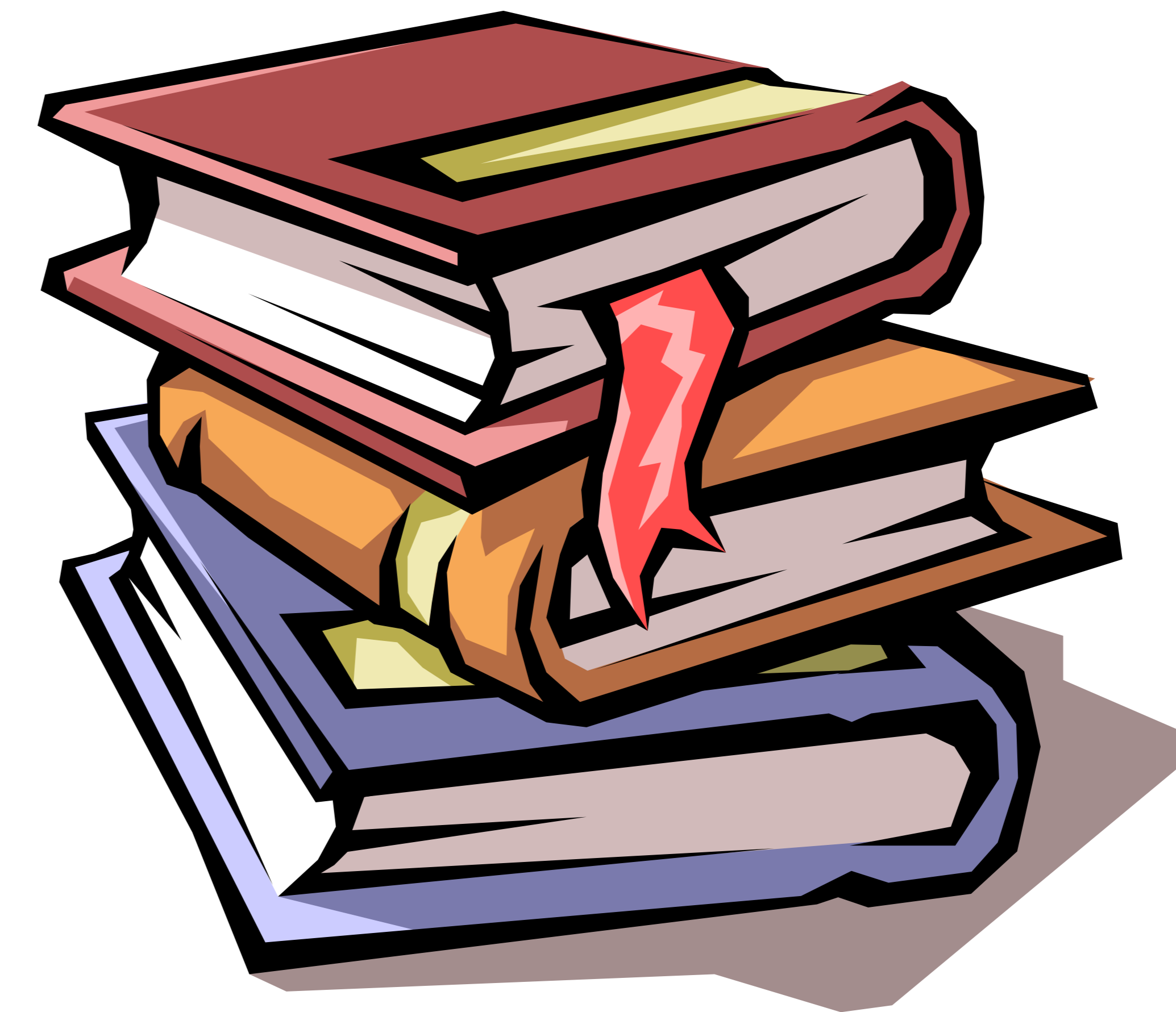
“photogrammetry”

art, science and technology of obtaining information from non-contact imaging of the land surface, by recording, measuring, analysing and representation

“informatics”

the processing and dissemination of information in an electronic form

# Supporting Disciplines



“radiometry”

the science of accurate and precise measurements of radiant energy

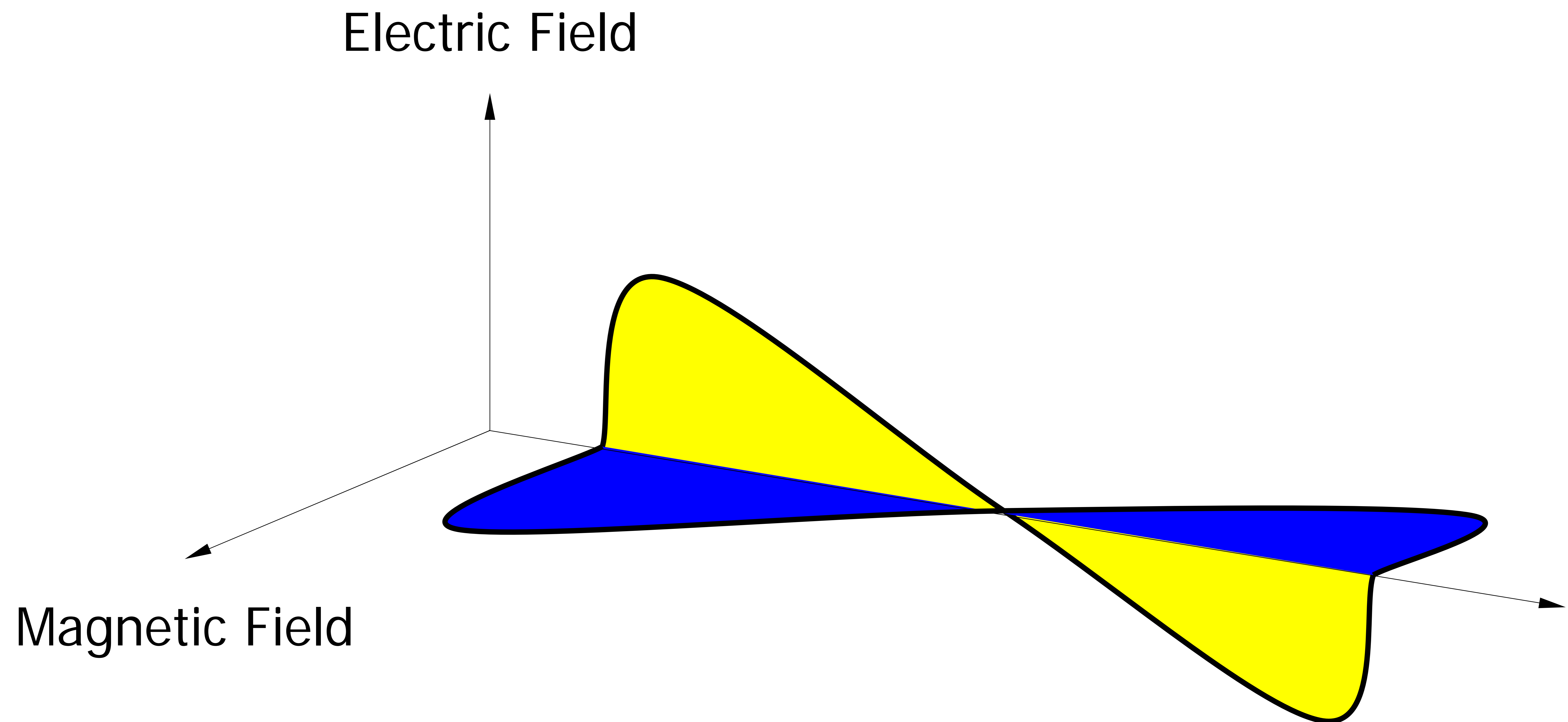
“interferometry”

practice of obtaining accurate measurements of wavelength, wave velocity and distance by analysing wave interference patterns or fringes

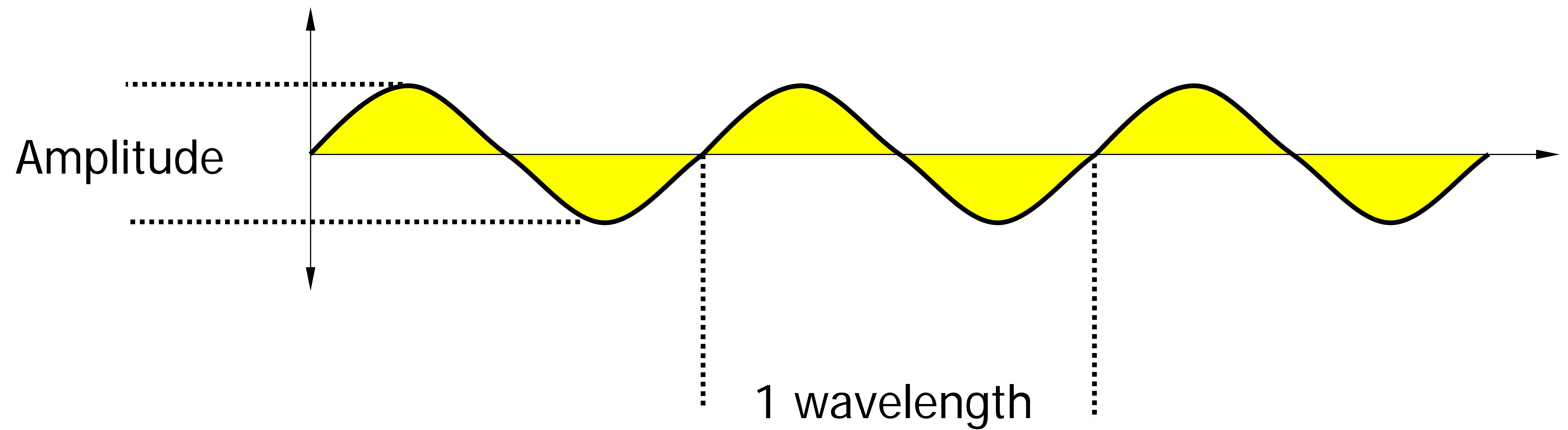
# Electromagnetic Principles



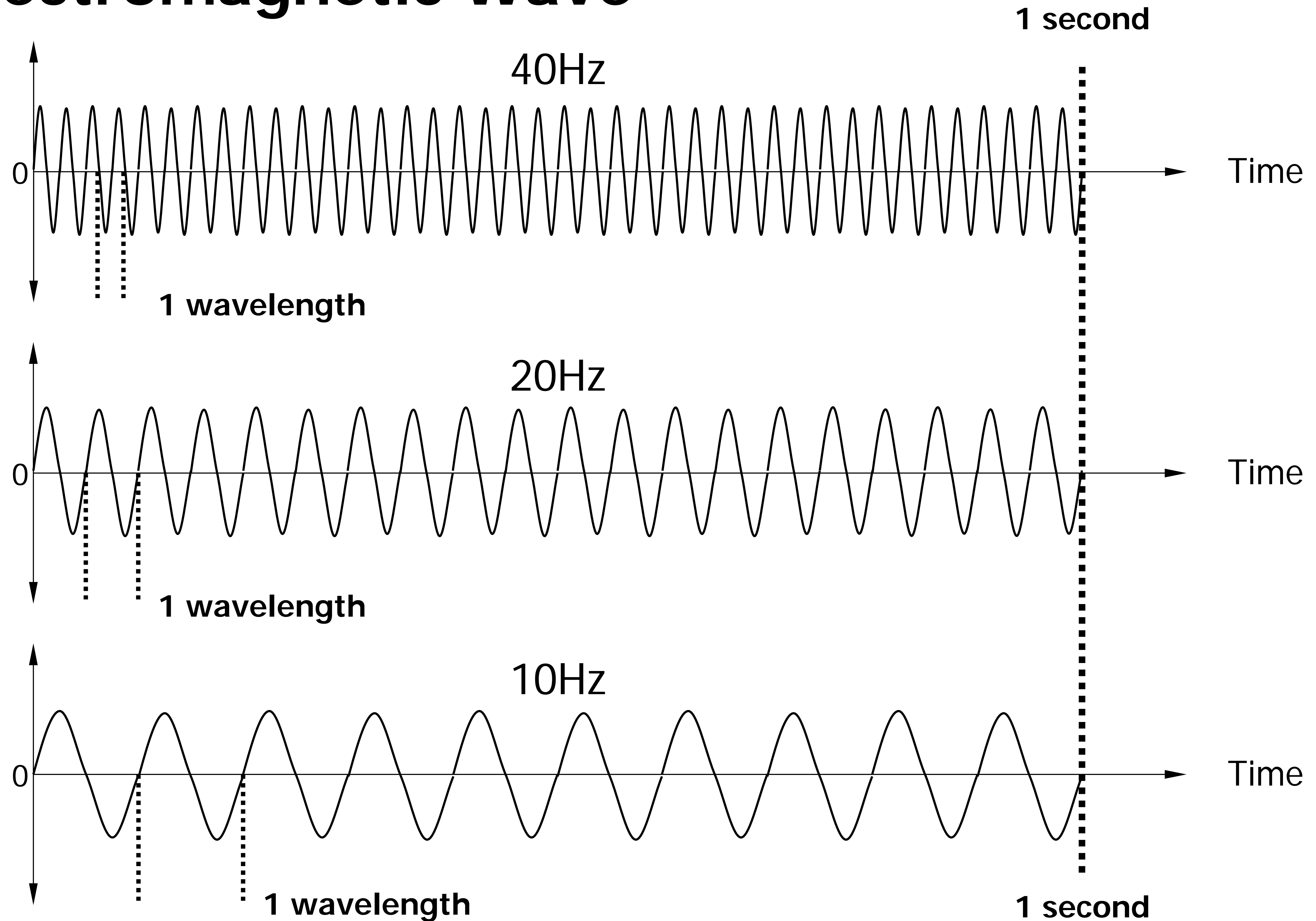
# Electromagnetic Wave



# Electromagnetic Wave

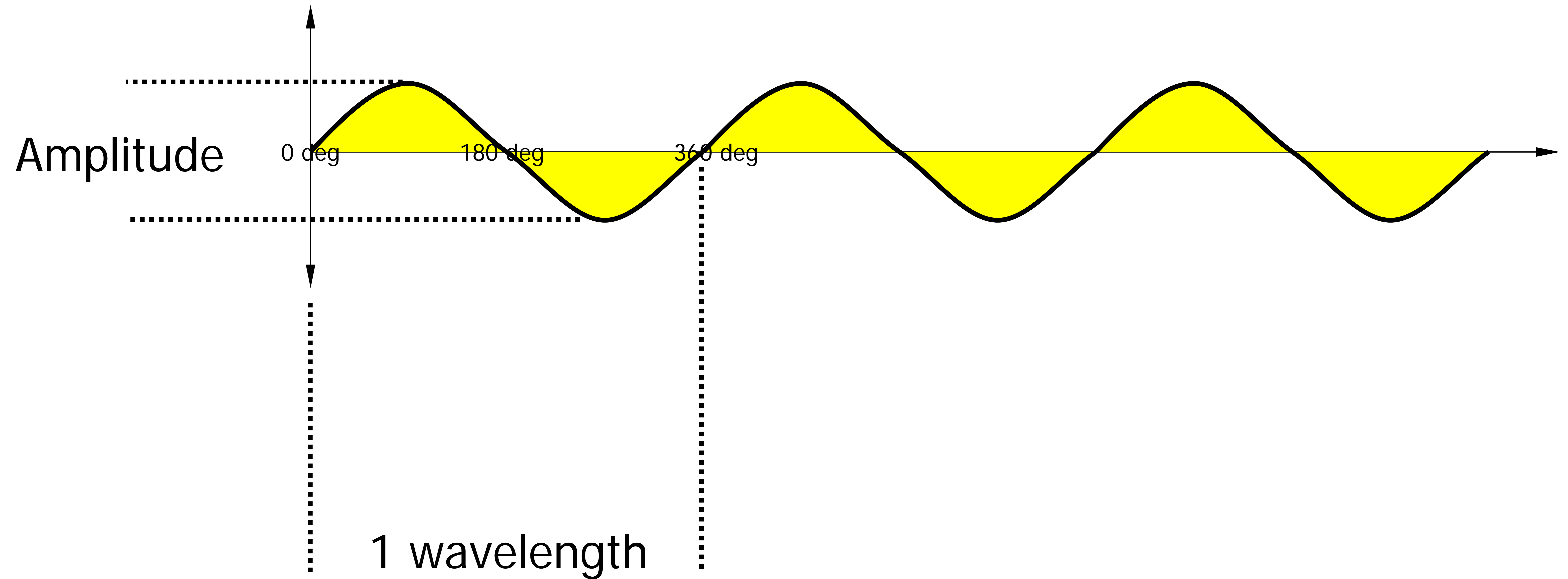


# Electromagnetic Wave



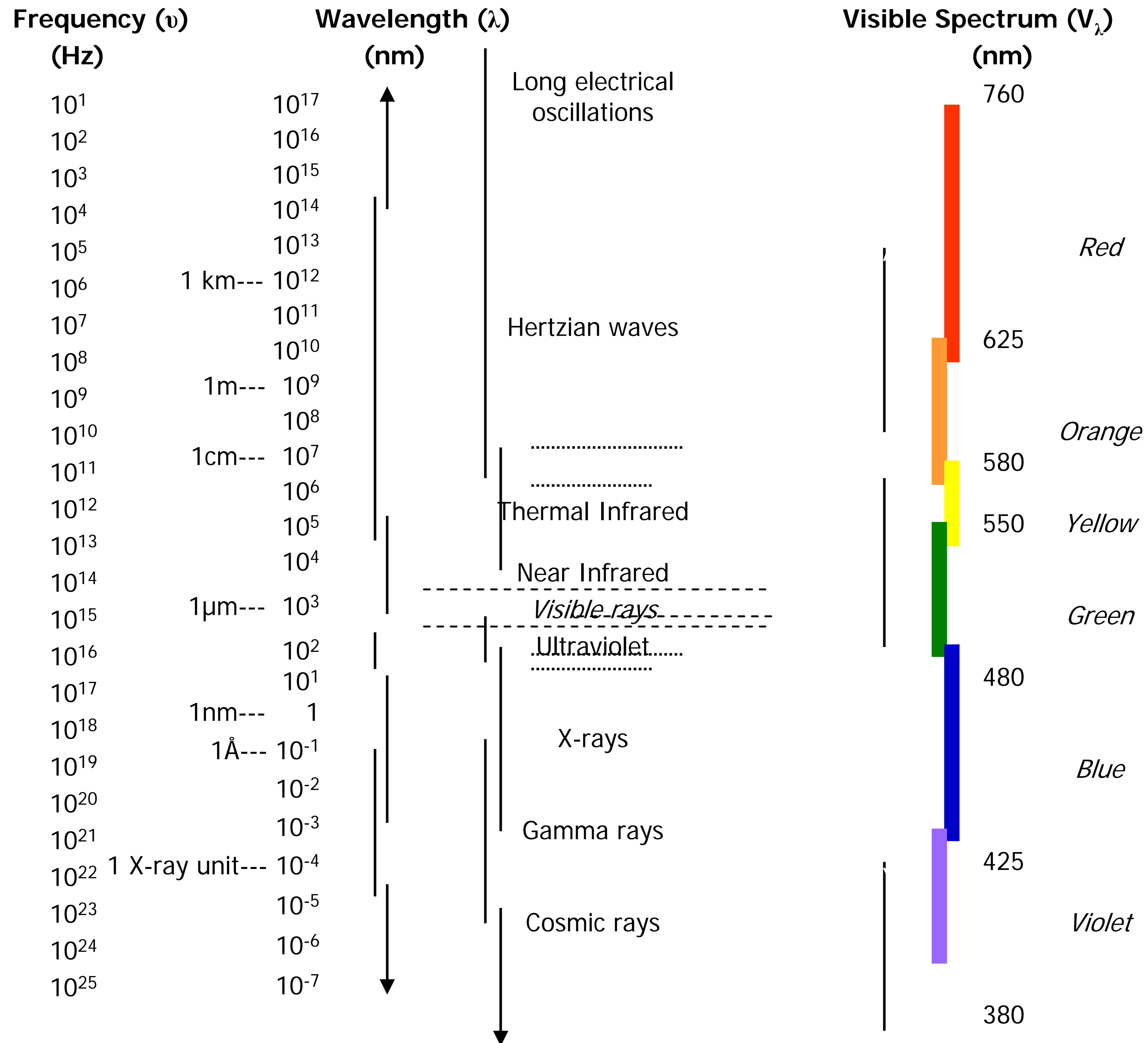
Frequency = number of wavelengths per unit of time

# Electromagnetic Wave

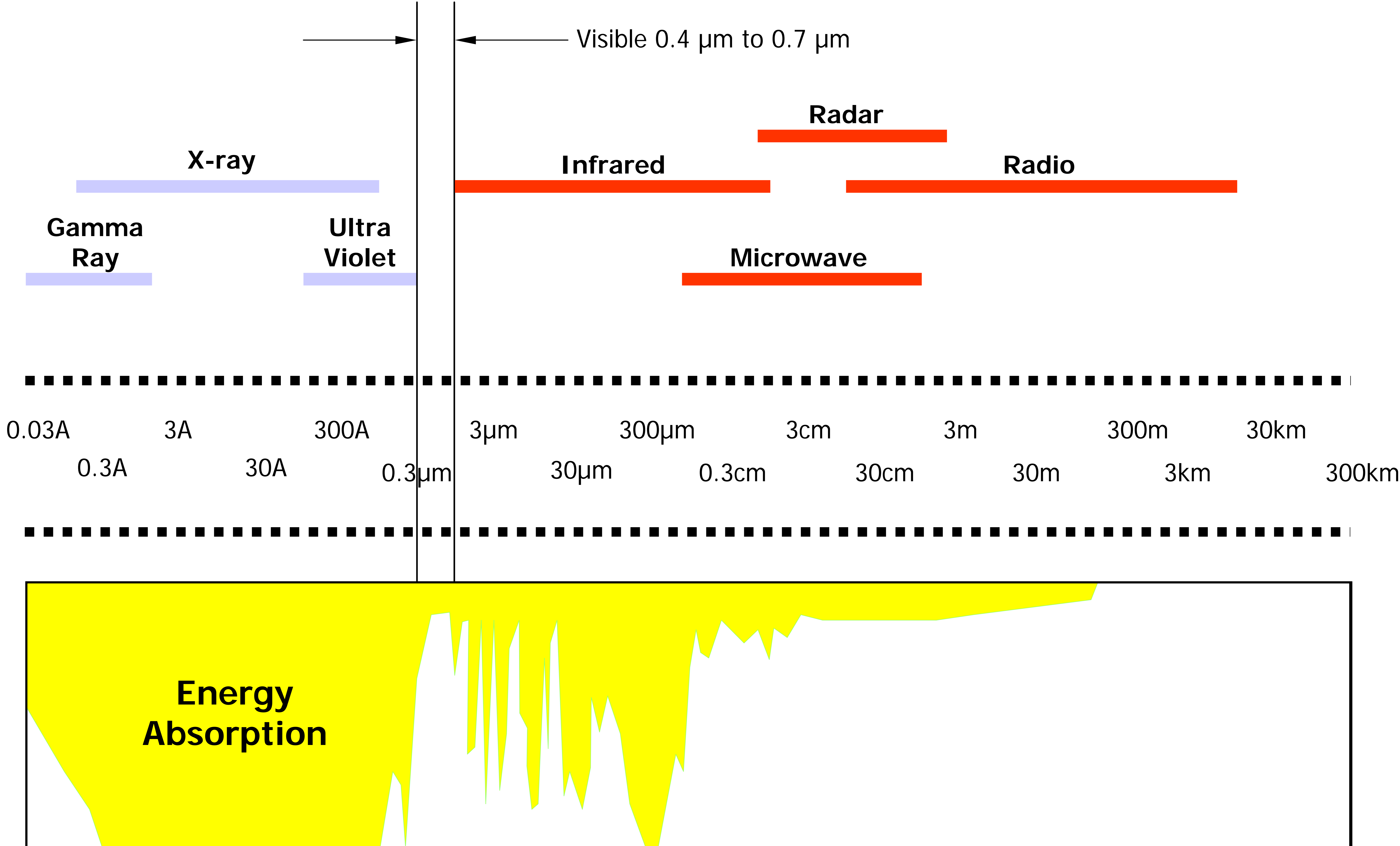


Phase of electromagnetic wave described in angular units

# Electromagnetic Wave



# Atmospheric Attenuation



# Sensor Sensitivity

