

GEOG 115B Terms Review Sheet: Midterm 2013

Basic Science Concepts

Scientific units of magnitude: nano, micro, milli ; kilo, mega, giga, tera ; hertz, kelvin

Image Processing Concepts

Enhancements

- Linear contrast

- Non-Linear piecewise

- Gaussian

- Square root

Filtering

- Low-pass (smoothing)

- High-pass

Masking

Bits, Bytes, and binary

Physics of Electromagnetic Energy

$\lambda = c/v$

Properties of the spectrum

Wiens displacement law:

$$\lambda_{\text{Peak}} \cdot T = 2.898 \times 10^{-3} \text{ m} \cdot \text{k}$$

Snell's Law:

$$n_1 \sin \theta_1 = n_2 \sin \theta_2$$

Blackbody

Solar EM Spectrum

Earth EM Spectrum

Earth Atmosphere

Atmospheric Effects

Specular Reflectance

Lambertian Surface

The Cardinal Effect

Units: Radiance, Radiant flux, Watts, Joules...

Remote Sensing of Vegetation

Vegetation Spectra

Indexes:

EVI, NDVI

Kauth-Thomas Transform

RADAR

RADAR Bands (common):

K's (K_a, K, K_u)

X

C

L

P