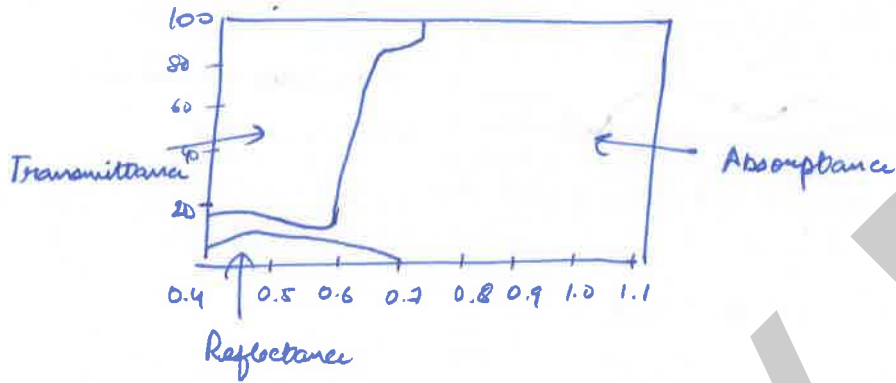


→ Spectral signature of water

- unlike vegetation & soil, most flux incident on water is either absorbed or transmitted.
- visible ~~surface~~ region - majority transmitted - little A, 5% R.
- At NIR - strong absorption, little R or T
- longer λ of visible & NIR are absorbed more than shorter λ
⇒ water looks blue/green in visible as longer λ Red is absorbed
- absorption band @ 1.4 μm & 1.9 μm



◦ Variability

Depth - In shallow water, some of radiation is reflected from bottom of structure

Materials within water - & reflectance

- (a) Non organic sediments
- silt & clay increase reflectance at visible λ due to interaction & scattering by soil like particles.

- near mouth of glacier, milky white colour due to fine rock flour.

- (b) Tannins - decomposing humus, common around agri areas
yellowish to brown in colour - decreased blue & increased red reflectance

- (c) Chlorophyll - absorbs blue, reflect green

chlorophyll content must be high before it becomes visible.

water bodies with excessive chlorophyll

→ reflection properties similar to vegetation.