1 Figures

2 Model

From the general radiance equation,the reflected radiance is given by

$$L_r = \int_{\phi_i=0}^{2\pi} \int_{\theta_i=0}^{\frac{\pi}{2}} f_r L_s T(l) cos(\theta_i) sin(\theta_i) d\theta_i d\phi_i \tag{1}$$

Where, the f_r is Lambertian BRDF.

The transmission function $T(l)$ can be related to the depth of the relfecting surface.

Given an incident light of radiance, L_s, we have the decomposed radiance as

$$L_{sa} + L_{sb} = L$$

where, L_{sa} is the absorbed light radiation.

Since we want to specifically take into account the absorbance due to chlorophyll a, we limit the consideration to considering the radiance of light at $\lambda = 662nm$

According to the Beer-Lambert Law we have the relation,

$$Log\left(\frac{L}{L_s b}\right) = A \tag{2}$$