## **Attenuation Coefficient**

One of the most common descriptors of the penetration of sunlight in water is the diffuse attenuation coefficient,  $K(\lambda)$ , or  $K_d(\lambda)$  when calculated from vertical profiles of downwelling irradiance,  $E_d(\lambda)$ . Where *z* is depth, this relationship is:

$$K_{d}(\lambda,z) = \frac{-1}{E_{d}(\lambda,z)} \left[ \frac{dE_{d}(\lambda,z)}{dz} \right]$$

For homogeneous waters, a plot of the logarithm of  $E_d(\lambda, z)$  versus z forms a straight line, and K

d

(λ, *z* 

) is the localized slope of that line (Figure 1).

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