3.0 Introduction

The whole discipline of optical measurement techniques can be subdivided into two areas of **photometry** and **radiometry**.

The central problem of photometry is the determination of optical quantities closely related to the sensitivity of the human eye.

The radiometry deals with the measurement of energy per unit time (= power, given in watts) emitted by light sources imping on a particular surface. Thus, the units of all radiometric
quantities are based on **watts** (***W***).

The symbols for radiometric quantities are denoted with the subscript '*e*' for energy. Similarly, radiometric quantities given as a function of wavelength are labeled with the prefix "spectral" and the subscript "λ" for example spectral radiant power ϕ_λ.

The definitions of radiometric quantities cannot be understood without a basic comprehension of differential quantities.

The differential quantities $d\lambda$, dA and $d\Omega$ can be regarded as tiny intervals or elements $\Delta\lambda$, ΔA and $\Delta\Omega$ of the respective quantity.

As a consequence of the fact that these intervals or elements are very small, radiometric quantities can be considered constant over the range defined by $d\lambda$, dA and/or $d\Omega$.

Similarly, $d\phi_e$, dI_e, dL_e and dE_e can be regarded as small portions which add up to the total value of the respective quantities.