

Seminário ICT

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A general view of Photosynthetically Active Radiation (PAR)

Abstract: Photosynthetically active radiation (PAR) is defined as the visible portion of global solar radiation that is utilized by plant biochemical processes in photosynthesis to convert light energy into biomass. This radiation lies between 400 and 700 nm and covers both photon and energy terms. PAR is very important in comprehensive studies of radiation climate, remote sensing of vegetation, radiation regimes of plant canopy and photosynthesis, playing important roles in agriculture, atmospheric physics, forestry, ecology, energy management and photon science. However, reliable measurements of PAR are seldom measured on a routinely basis around the world. PAR is strongly affected by the clouds, which are responsible for scattering processes that affect more markedly the shorter wavelengths in the solar spectrum, which include the photosynthetically active spectral range, and PAR also is affected by atmospheric aerosols, especially under cloudless conditions. We will show with experimental data the dependency of PAR with different parameters as solar zenith, cloudiness, aerosols, meteorological information, etc.

