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KEYWORDS

ATP: Adenosine Triphosphate

BEMR: Bio-Electromagnetic Resonance.

Cataract: darkening and solidification of the lens in the eye.

Chemometrics: Matrix of Chemistry.

CIE: International Commission on Illumination.

DSP: Digital Signal Processing

FDA: Food and Drug Administration

FIR: Finite Impulse Response.

FPGA: Field Programmable Gate Array.

FT-IR: Fourier Transform Infrared Spectroscopy.

Glycosylated haemoglobin: It averages the blood glucose values over two to three months

Global radiation: For a typical cloudless atmosphere in summer and for zero zenith angle, the 1367 W m-2 of Solar constant reaching the outer atmosphere is reduced to ca. 1050 W m-2 direct beam radiation, and ca. 1120 W m-2 global radiation on a horizontal surface at ground level.

Hb: Haemoglobin

IDF: International Diabetics Federation

IDE: Investigational Device Exemption


Infrared radiation: Optical radiation for which the wavelengths are longer than those of visible radiation, 700 nm to 1000 μm.

Irradiance: Describes the flux, radiative power density, and incidence on a surface. Units, W m-2 or W cm-2. The surface must be specified for the irradiance to have meaning. Laboratory
surfaces are not usually as large as a square meter; this happens to be the appropriate SI unit of area).

**IR**: Infra Red

**IRB**: Institutional Review Board

**In-silo**: Inside body using silicon based implant.

**In-vitro**: Outside the body.

**In-vivo**: Inside the body.

**IVD**: In-vitro diagnostics.

**IP**: Intellectual Property

**MAC**: Multiply and Accumulate

**MATLAB**: Matrix Laboratory Software

**MIR**: Mid-infrared.

**Non-Invasive (NI)**: Monitoring the parameter from outside.

**NIR**: Near Infra Red

**OCT**: Optical Coherence Tomography.

**OGTT**: Oral Glucose Tolerance Test.

**PLS**: Partial Least Square

**PLSR**: Partial Least Square Regression.

**PMA**: Physical Medicine of America.

**SI**: Systeme Internationale.

**SNR**: Signal to Noise Ratio.

**Solar Constant**: The irradiance of the sun on the outer atmosphere when the sun and earth are spaced at 1 AU (the mean earth/sun distance of 149,597,890 km), is called the solar constant. Currently accepted values are about 1360 W m⁻². (The NASA value given in ASTM E 490-
73a is 1353 (±21 W m-2.) The World Metrological Organization (WMO) promotes a more recent value of 1367 W m-2.).

**SOC** : System on Chip.

**Spectral irradiance** \(E(\lambda)\): The irradiance per unit wavelength interval at a specified wavelength. Spectral irradiance units, W m-2 nm-1 To convert into W m-2 \(\mu\)m-1, multiply by 1000 (1000 E). To convert into W cm-2 nm-1, multiply by 10^-4 (10^-4 E). To convert into W cm-2 \(\mu\)m-1, multiply by 0.1 (0.1 E)

**SPIE** : Society of Photo-optical Instrumentation Engineers.

**SW-NIR**: Short-Wavelength Near InfraRed.

**PA**: Photo-Acoustic

**QTH** : Quartz Halogen Tungsten

**Ultraviolet radiation**: Optical radiation for which the wavelengths are shorter than those for visible radiation, <400 nm. Note: For ultraviolet radiation, the range below 400 nm is ; commonly sub-divided into: UVA 320 - 400 nm, UVB 280 - 320 nm, UVC <280 nm

**Visible radiation**: Any optical radiation capable of causing a visual sensation directly, 400 - 700 nm.

**YSI** : Yellow Springs Instruments