

1. Zenith Angle.

It is the vertical angle between the sun's ray and line perpendicular to the horizontal plane through the point.

$$\theta_z = \frac{\pi}{2} - \alpha$$

2. Global Radiation: - Global solar radiation is the total amount of solar energy falling on a surface.

Typical value for daily global solar radiation range from 1 to 35 MJ/m<sup>2</sup>

3. Hour Angle mathematically Hour Angle can be expressed

$$[\omega = 15(LST - 12)]$$

4. Solar constant -

The solar constant is the energy received from the sun on a unit area to sun's ray mean distance from the sun outside the atmosphere.

The standard value of the solar constant based on experimental measuring is 1362 W/m<sup>2</sup>.