CESAR Science Case – Calculation guide

Calculate the Sun's differential rotation

$$Angular\ vlocity = \frac{Longitude\ difference}{Time\ difference} \quad \left[\frac{degrees}{day}\ or \frac{degrees}{second}\right]$$

Calculate size of a sunspot

$$Measured\ size\ of\ the\ sunspot/Measured\ size\ of\ the\ Sun = Real\ size\ of\ sunspot/Real\ size\ of\ the\ Sun$$

$$Size\ of\ sunspot\ (in\ Earths) = Real\ size\ of\ sunspot/Size\ of\ Earth$$

Average diameter of the Sun: 1.391.000 km

Diameter of Earth: 12.742 km