

Radio Astronomy Practical – Measuring the brightness temperature of the Sun !

What to do (in a spreadsheet):

1. Calculate the angular diameter of the Sun from your measurements from the pinhole projection. Estimate the uncertainty (error) in your answer.
2. Use your measurements with the DSTV dish to calculate the brightness temperature of the Sun at 12 GHz. Estimate the uncertainty (error) in your answer.
3. Use your measurements with the mesh dish to calculate the brightness temperature of the Sun at 4 GHz. Estimate the uncertainty (error) in your answer.

How does this compare with the brightness temperature for the Sun measured at 12 GHz. How does this compare with the temperature of the optically emitting surface of the Sun, the photosphere ? Explain.