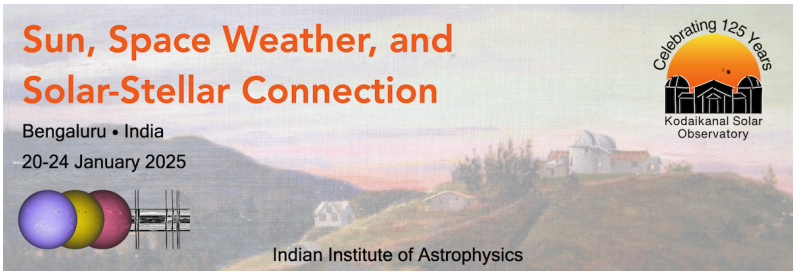

Contribution ID: **155** Type: **Poster**

On the latitudinal variation of sun's radius

Kodaikanal solar observatory white light image data is used to explore the possible variation of sun's radius with respect to latitude. For the year 1904, very good calibrated digitized and limb darkening removed image is used. After unambiguously detected solar edge, circle is fitted, mean radius and central coordinates are estimated. By knowing these important parameters, heliographic coordinates are fixed for the pixels of the detected edge and, radii at different position angles are computed. Preliminary results show that, for different position angles, from 0-360 degrees, there is indeed a variation of radius with respect to latitude with a mean variation of ~ 0.2 arc secs is estimated. Assuming spherical symmetry, perturbed radius is fitted with Legendre polynomial and it is found that combined modes of dipole, quadruple and octupole terms fit very well with the perturbed sun's radius.

Contribution Type

Poster

Theme

Solar Magnetism over Long-Time Scales

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