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Type: **Contributed talk**

Revisiting Sunspot Groups Tilt Angle Study from Kodaikanal Data

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The solar cycle is driven by the emergence and evolution of active regions on the Sun's surface, which play a critical role in the Sun's magnetic dynamics. One of the fundamental properties of these regions is the tilt angle, which describes the inclination of a sunspot group's axis relative to the solar equator. Tilt angles are essential for understanding the solar dynamo, as they contribute to the generation and evolution of large-scale solar magnetic fields.

Using daily sunspot group data from the Kodaikanal Solar Observatory for the period 1954-2017, we have studied the statistical properties of sunspot tilt angles. Key findings such as the distribution of sunspot groups tilt angles in both solar hemispheres, their variation with latitude etc. will be presented providing a comprehensive view of how tilt angles evolve over multiple solar cycles.

Contribution Type

Theme

Solar Magnetism over Long-Time Scales

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