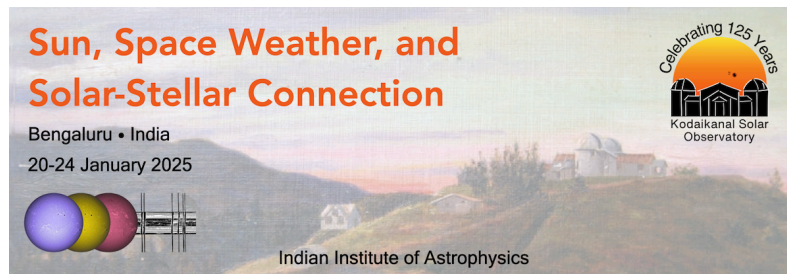


## Sun, Space Weather, and Solar-Stellar Connection



Contribution ID: 194

Type: Poster

### Association between the Chirality of a Filament and the Helicity of the supporting Active Regions

We investigate the handedness in the solar magnetic structures like chromospheric filaments and photospheric active regions using observations obtained from GONG, KSO, and SDO/HMI. At its initial stage near the east limb, we identified a right-bearing sense for the filament barbs and negative helicity in the supporting active region (AR). Subsequently, we observed an emergence of positive helicity in this AR and a change in the bearing sense of the associated filament. Following this emergence, the filament adhered to the hemispheric helicity rule, maintaining the helicity of the underlying AR throughout its disc passage and following to the conservation of helicity. Our conclusion is that the AR in the photosphere and the filament in the chromosphere are interconnected, exhibiting similar patterns of helicity for the long duration of their lifespans.

#### Contribution Type

Poster

#### Theme

Solar Magnetism over Long-Time Scales

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