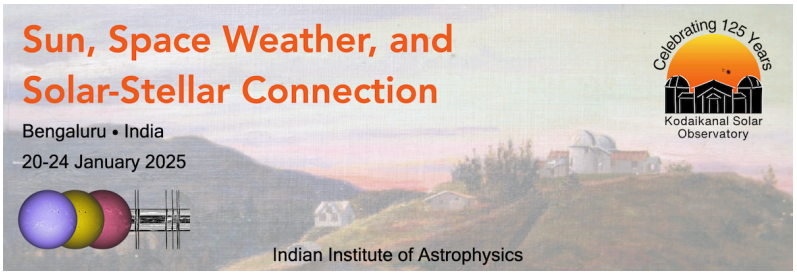

Contribution ID: **98** Type: **Poster**

A Deep-Learning Based Algorithm to Extract Filaments from Kodaikanal Solar Observatory Suncharts

The long-term evolution of solar filaments, prominently observed in Hα, is closely related to the large-scale solar cycle, with their parameters tracing the solar surface magnetic fields and have been long thought to contribute to the polar fields of the next cycle. The Kodaikanal Solar Observatory (KoSO) hosts one of the longest reserves of archival data with the information of these features in the unique form of hand-drawn suncharts, where features like filaments, plages and sunspots are marked in different colours. In this study, we created a Convolutional Neural Network (CNN) based model for the extraction of these features from the entire period from 1954-1976 and present the preliminary results of the training. A comparison will be made with other extracted statistics and relevant solar cycle properties will be studied from the new filament time series.

Contribution Type

Theme

Solar Magnetism over Long-Time Scales

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Session Classification: Poster Session-I / Coffee Break