

Sun, Space Weather, and Solar-Stellar Connection



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Enhancing the efficiency of feature tracking algorithms to analyze high resolution solar observations

Advancements in ground and space instrumentation have led to high-quality observations of the Sun, both in quiet and actively magnetic regions. Analyzing the formation and destruction of magnetic fields on the Sun is crucial for understanding the physical phenomena that drive magnetic activity. To carry out such analysis, feature-tracking codes are employed. In the era of big data generated by various ground and space-based instruments, improving the efficiency of these feature-tracking codes is essential. The primary objective of this work is to streamline the feature-tracking code used in Anusha et al. (2017) that studied small-scale magnetic features on the Sun. To achieve this, we are developing a parallel C++ version of the code and rigorously testing its accuracy and efficiency against the original IDL implementation.

Contribution Type

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Theme

Solar Magnetism in High-Resolution

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