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Properties of Filament Eruption and Associated Flare Ribbons on 2021 May 9

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We present the first results from the investigation of a filament eruption (FE) and associated ribbon flare, occurring in the southern solar hemisphere on 2021 May 9. Before the eruption, the filament was located in a plage region, close to the disk center and lay along the S-shaped magnetic polarity inversion line, i.e. it represented a sigmoid filament. The filament began to rise slowly at 09:30 UT and at 10:00 UT it erupted, which was accompanied by spreading ribbons at its base. During the FE, two flare ribbons slowly separated. During the ribbons evolution, hot post-flare loops (PFL) appeared at 11:00 UT and later, at 11:55 UT they formed PFL arcade.

Using the high resolution multi-wavelength data from the Atmospheric Imaging Assembly (AIA) onboard the Solar Dynamic Observatory (SDO) we study the kinematics and morphology evolution of the eruption and flare ribbons. The event was registered also by STEREO-Ahead Observatory, which allows us to explore the event kinematics and evolution from two different points of view.

The filament evolution before the eruption was traced by H-alpha data from the Global Oscillation Network Group. The photospheric magnetic field configuration was analyzed with the Helioseismic Magnetic Imager onboard the SDO.

Student poster?

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