Chromosphere and the Transition Region above Plage Regions

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We investigate velocity oscillations in the active region plage by using the high-spatial, high-spectral and high-temporal resolution spectral data acquired by the Interface Region Imaging Spectrograph (IRIS). From the Mn I 2801.907 Å (lower chromosphere), C II (lower transition region) and Si IV (middle transition region) lines, we measure the line of sight Doppler velocity at different atmospheric layers, and present results of wavelet analysis of the plage region with a range of periods from 2 to 8 minutes. In addition, we present correlations of the oscillations from the lower chromosphere to the middle transition region. Finally, we will discuss the regional dependence of the oscillation properties on physical properties such as temperature and magnetic field inclination.

[포 SS-03] Connection of Blobs along Post-CME Ray and EUV Flares

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After a coronal mass ejection occur, plasma blobs are often observed along the post-CME ray. Searching for features related to the plasma blobs would be important in understanding their origin. We investigated the morphology of solar flares at EUV wavelengths, around the estimated times when blobs were formed. We focused on three events - 2013 September 21 and 22, 2015 March 7 and 8, and 2017 July 13 and 14 - observed by Atmospheric Imaging Assembly (AIA) aboard Solar Dynamic Observatory (SDO). Around the blob ejection times on 2013 September 21 and 22 and 2017 July 13 and14, we found regions with recurrent events of pronounced flux increase in EUV images. Around those of 2015 March 7 and 8, however, we could not observe such recurrent flux increase. This illustrates that even though blob ejections along different post-CME rays look similar in the high corona, the assocated features in the low corona may differ. We conclude that magnetic morphology and CME triggering process should be carefully examined in order to classify plasma blobs by their nature.

[포 SS-04] Current Status of KMTNet/DEEP-South Collaboration Research for Comets and Asteroids Research between SNU and KASI

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Korea Microlensing Telescope Network (KMTNet) is one of powerful tools for investigating primordial objects in the inner solar system in that it covers a large area of the sky (2 × 2 degree2) with a high observational cadence. The Deep Ecliptic Patrol of the Southern sky (DEEP-South) survey has been scanning the southern sky using KMTNet for non-bulge time (45 full nights per year) [1] since 2015 for examining color, albedo, rotation, and shape of the solar system bodies. Since 2017 January, we have launched a new collaborative group between Korea Astronomy and Space Science Institute (KASI) and Seoul National University (SNU) with support from KASI to reinforce mutual collaboration among these institutes and further to enhance human resources development by utilizing the KMTNet/DEEP-South data. In particular, we focus on the detection of comets and asteroids spontaneously scanned in the DEEP-South for (1) investigating the secular changes in comet's activities and (2) analyzing precovery and recovery images of objects in the NASA's NEOWISE survey region. In this presentation, we will describe our scientific objectives and current status on using KMTNet data, which includes updating the accuracy of the world coordinate system (WCS) information, finding algorithm of solar system bodies in the image, and doing non-sidereal photometry.

[포 SS-05] Dependence of the peak fluxes of solar energetic particles on CME parameters and magnetic connectivity

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