[구SS-05] Time Variation of 3D Structure of EUV Bright Points

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Three-dimensional structure of EUV bright points (hereafter BP) and its time variation are presented here. Heights of EUV BPs have been stereoscopically measured using SECCHI EUVI on board STEREO consisting of a pair of twin spacecrafts. We have taken 3 EUV BPs on images at 195 Å observed from 21 Mar 2008 to 22 Mar 2008. We traced the bright points individually and measured heights, intensities and lifetimes. We found out that the higher BP has longer lifetime and strong intensity. The BPs are small dynamic loop system with an average height of about 8 Mm. The BPs are first appeared at 12 Mm, 9 Mm, and 8 Mm, and disappeared at similar heights, 6~7 Mm. There is tendency that the height of a BP is the highest at the formation phase and it is reduced with their temporal evolutions while the intensity of a BP is the strongest in the latter half of its lifetime. In addition, we found recurrence of a BP at neighboring region several times within its lifetime. The downward motions are consistent with converging flux model with simple magnetic bipole configuration proposed by Priest et al. (1994) but our results are suggesting that the magnetic configurations are more complicated.

[구SS-06] Different types of EUV Active Region Transient Brightenings by Hinode/EIS

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We have investigated seven Extreme-Ultraviolet (EUV) transient brightenings in the active region (AR 0926) on 2006 December 2 by the EUV Imaging spectrometer (EIS) onboard Hinode spacecraft. We determined their Doppler velocities and non-thermal velocities from 15 EUV spectral lines (log T=4.7-7.2) by fitting each line profile to a Gaussian function. We present the Doppler velocity map as a function of temperature which corresponds to a different height. As a result, these active region transient brightenings can be classified into two types according to the pattern of doppler shifts. Type iotransient brightenins shows a shows atic incrthee of Doppler velocity from -56km/s (blue shift) at log T=5.mperat km/s (red shift) at log T=6.7, while type 2 transient brightenings have Doppler velocities in the range of -20km/s and 20km/s. Using MDI magnetogrigs, we found that only type iotransient brightening was associated s, we fo cancelling magnetic fthture at the rate of 2.4x101km/x /hour. When assuming that thesresponsient brightenings are caused by magnetic r. onnection and the Doppler shifti ght.cates r. onnection lerflow, the pattern of the Doppler shiftigmplieiateat type io transient brightening should be related eralow atmt pnt brmagnetic r. onnection. We alsra determined electron ingsities from line ion. as well as temperatures from emission these loci using CHIANTI atoghtedatppheer. onnelectron ingsities uminlngsponsient brightenings are cogparable to typical values of active regions (log Ne=9.9-10.4). For the temperature analysis, the emission loci plots indicate that these transient brightenings should not be isothermal. The DEM analyses also show that while the background region has a single peak distribution, the EUV transient brightenings, double peak distributions.