[포SE-30] Comparison of the radial velocities of Halo CMEs based on a flux rope model and an ice cream cone model

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Halo Coronal Mass Ejections (HCMEs) are crucial for space weather, since they can produce severe geomagnetic storms when they interact with the Earth's magnetosphere. It is thus very important to infer their directions, radial velocities, and their three-dimensional structures. In this study, we apply two different models to HCMEs since 2008 : (1) an ice cream cone model by Xue et al (2005) using SOHO/LASCO data, (2) a flux rope model by Thernisien et al. (2009) using STEREO/SECCHI data. In addition, we use the flux rope model with zero separation angle of flux rope, which is morphologically similar to the ice cream cone model. The comparison shows that the CME radial velocities from three models have very good correlations (R>0.9) one another. We are extending this comparison to other partial halo CMEs observed by STEREO and SOHO.

[포SE-31] An investigation of the Photospheric and Chromospheric Layers of Sunspots

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The most powerful technique for deducing the magnetic structure of the Sun is spectro-polarimetry. Detailed measurements of the polarization signal of the spectral lines (Stokes vector) allow us to infer the physical conditions in the solar atmosphere prevailing during the line formation. Inversion codes are the main tool to extract this information from the Stokes spectra. This study will focus on measurements of the chromospheric He I 1083.0 nm triplet and the photospheric Si I 1082.7 nm line. A spectropolarimetric data set of sunspots, obtained with the German Vacuum Tower Telescope (VTT) at the Teide observatory on Tenerife, is analyzed using an inversion technique. We will introduce the German Vacuum Tower Telescope and the inversion code HeLix, and will show data sets that are analyzed by HeLix.