[P02-1] Comparison between Chromospheric and Coronal Chirality in Solar Filaments

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In this study we have examined the relationship between the chromospheric and coronal chirality using BBSO H-alpha and TRACE EUV 171A data of 60 active regions from June 1998 to Oct 2004. Using H-alpha filament channel structure, we identified the chromospheric chirality of filaments, known as "dextral" or "sinistral". When viewed from positive polarity side of the polarity inversion line, a filament channel is dextral (sinistral) if the fibril goes to right (left) from the positive polarity, respectively (Martin, 1998). On the other hand, we determined the coronal chirality by examining the crossed dark and bright threads in EUV filaments, as suggested by Chae (2000). The comparison between the chromospheric chirality and the coronal chirality shows that the majority of dextral (sinistral) chromospheric chiralities correspond to negative (positive) coronal chirality, supporting Chae's prediction.

[P02-2] Development of Wave-Front Sensing Software for Active Optics of New Solar Telescope

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The New Solar Telescope (NST) is the next generation solar telescope and is supposed to be installed at Big Bear Solar Observatory (BBSO) in the late of 2006. Its construction is being made by an international project among NJIT/BBSO, University of Hawaii, and Korea Astronomy and Space Science Institute (KASI). The main task of KASI is to develop the software of a wave-front sensing (WFS) system for active optics. The WFS application can be divided into three parts; (1) gathering a wave-front image from CCD, (2) calculating Zernike polynomial coefficients, and (3) sending the coefficients to the active optics control system (AOCS). In this study we introduce the software design of the application and then present details to calculate Zernike polynomial coefficients using lenslet array data from the WFS system.