

[CS03] A Scanner Design for the FISS (Fast Imaging Solar Spectrograph)

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A two-mirror scanning system to be equipped at the Fast Imaging Solar Spectrograph (FISS) is described. The FISS utilizes the slit scanning method to construct a two-dimensional imaging spectroscopy. In order for a one-dimensional slit to make two-dimensional images, field scanning along the direction perpendicular to the slit length is necessary. There are several methods of scanning and in the design of the scanner for the FISS, a two-mirrored linear scanner unit may be appropriate. This scanner has some advantages in that it does not need to be located at pupil and it has less mirror components than the MISC (the Micro-Image-Scanner) which is composed of three mirrors. This scanner also can change the angle between an entrance beam and an outward beam by changing tilt angle of the scan mirrors. However, according to the structure of the mirror configuration, the scanner inevitably changes the direction of a beam.

[CS04] Magnetic Helicity Injection and Filament Formation

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The process of filament formation is an interesting and unresolved problem in solar physics. A necessary condition for the filament formation is magnetic helicity. In this talk, we present an example of filament formation without significant helicity injection during the formation period, which suggests that the filament helicity would have originated from the accumulated helicity before the filament formation process.