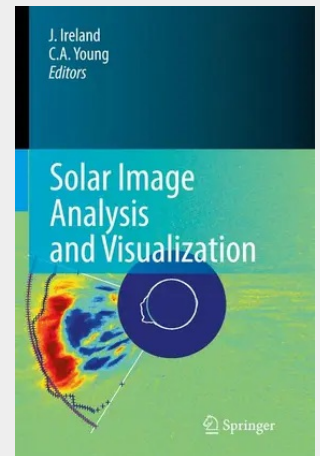


Solar Image Analysis and Visualization

The SECCHI A and B instrument suites (Howard et al., 2006) onboard the two STEREO mission spacecraft (Kaiser, 2005) are each composed of: one Extreme Ultra-Violet Imager (EUVI), two white-light coronagraphs (COR1 and COR2), and two wide-angle heliospheric imagers (HI1 and HI2). Technical descriptions of EUVI, COR1 and the HIs can be found in Wuelser et al. (2004), Thompson et al. (2003), and De?se et al. (2003), respectively. The images produced by SECCHI represent a data visualization challenge: i) the images are 2048×2048 pixels (except for the HIs, which are usually binned onboard 2×2), thus the vast majority of computer displays are not able to display them at full frame and full resolution, and ii) more importantly, the ?ve instruments of SECCHI A and B were designed to be able to track Coronal Mass Ejections from their onset (with EUVI) to their propagation in the heliosphere (with the HIs), which implies that a set of SECCHI images that covers the propagation of a CME from its initiation site to the Earth is composed of images with very different spatial resolutions – from 1.7 arcseconds/pixel for EUVI to 2.15 arcminutes/pixel for HI2, i. e. 75 times larger. A similar situation exists with the angular scales of the physical objects, since the size of a CME varies by orders of magnitude as it expands in the heliosphere.

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