

The automatic detection and tracking of interplanetary coronal mass ejections (CMEs)
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I have developed a program that will, when given image data from the Solar Mass Ejection Imager (SMEI) onboard Coriolis, automatically identify the leading edges of coronal mass ejections (CMEs) in the images that have been identified with the AiCMED (Automatic interplanetary CME Detection) software. It will also determine whether the leading edges found are part of the same CME, or different CMEs. Feeding these leading edges into the Tappin-Howard Model (Tappin and Howard, 2009) gives us a prediction of the kinematic trajectory of the CMEs concerned, estimates their 3-d structure and direction and, in Earth-directed cases, their arrival times at the Earth. I will demonstrate how these leading edges are picked out, and estimate how many events are 'missed' by my program (and likewise, how many 'false positives' are found). I will also compare the predicted arrival time of an Earth-directed CME with the actual time that it arrived at the Earth.

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