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CME initiation observed in four SOHO/EIT bandpasses

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A study of coronal mass ejections (CME) signatures observed by SOHO/EIT is performed. "CME Watch" data series (cadence of about 15 minutes) taken in four EIT bandpasses (Fe XII 195 Å, Fe IX/X 171 Å, Fe XV 284 Å and He II 304 Å) in 1999 – 2000 (during the epoch of high solar activity) have been used. While the "CME Watch" series in the Fe XII bandpass are taken routinely, the observations with similar cadence in other three bandpasses are made only occasionally. The sources of the CMEs observed by the SOHO/LASCO during these periods have been identified. CME signatures observed in the low corona by EIT include: EUV dimmings, EIT waves, prominence/filament eruptions, post-eruption arcades and a variety of limb signatures. The particulars of using each EIT bandpass for the CME detection are discussed. Observations in the Fe XII bandpass seem to be optimal for the CME sources identification. The Fe XV bandpass is less efficient due to the lower signal-to-noise ratio. The Fe IX/X bandpass is also suitable. However, significant transition region contribution to this bandpass makes the identification of CMEs on-disc more difficult. The He II bandpass is less convenient, although it also shows a variety of interesting events in association with CMEs. It is shown that EUV dimmings (often accompanied by EIT waves) are the most frequent CME signatures. Some aspects of the nature of EIT waves and dimmings are discussed. In particular, the 3D structure of EIT waves and CMEs is addressed using the observations of CME initiation close to the solar limb.