

STEREO OBSERVATIONS OF LARGE-SCALE WAVES IN THE SOLAR CORONA

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Abstract

We present recent studies on large-scale solar coronal waves (so-called "EIT waves") obtained with the EUVI instruments onboard the twin STEREO spacecraft. EUVI has several advantages for coronal wave studies: a) high cadence full-disk imaging, which allows us to catch the wave evolution and kinematics, b) a large field-of-view, which allows simultaneous observations of the erupting CME, and c) observations from two vantage points, which enable us to get insight into the three-dimensional structure of the wave. The present understanding is basically split into different groups of "wave" versus "non-wave" interpretations of the physical process behind the phenomenon, as well as "flare" versus "CME" for the driving agent. We will present the first observations of the full three-dimensional wave dome in the event of January 17, 2010. The study of the perturbation characteristics and the associated high-frequency radio type II bursts provide evidence for a weakly shocked fast-mode wave as the underlying physical process.

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