

Coronal Stereoscopy for AR 8891

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The forthcoming STEREO mission requires powerful tools for the 3D reconstruction of the solar corona, e.g. a stereoscopy program. Development and testing of such programs are already possible with SOHO and ground based observations by using the solar rotation to observe the slow evolving structures from different angles of view. We apply a newly developed stereoscopy tool for the reconstruction of solar active region NOAA 8891 observed from 2000 March 1 to March 3. To do so we use a combined data set of magnetograms (MDI, SFT) and coronal EUV images (EIT, TRACE). Due to the low plasma beta in the corona we can assume a force-free magnetic field. Here we compute a nonlinear force-free field for the coronal magnetic field using photospheric vector magnetogram from SFT. On the other hand, we identify loop structures in this active region from TRACE and EIT observation. Combining the extrapolated nonlinear force-free field and 2D loop structures, we do coronal stereoscopy to obtain the 3D loop structures. This kind of work will be applied to STEREO mission in the near future.