A test of flux rope model by NOAOMI and ACE magnetic field observations of a magnetic cloud

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The torus-shaped flux rope model applied to the magnetic cloud observed by ACE on April 16-17, 1999, was tested by the nearly simultaneous observation by NOZOMI spacecraft that was within 3 degrees in heliocentric longitude and 0.2 AU in heliocentric distance of ACE. At the passage of the magnetic cloud, the Bz component was positive at NOZOMI while negative at ACE. The torus-shaped flux rope model fitted to the ACE event by Ishibashi and Marubashi(2004) was overlaid on the magnetic field vectors obtained from NOZOMI observation. The result suggests that the difference of the field direction between NOZOMI and ACE was not explained by the different path through the single flux rope structure.

Reference:
Ishibashi and Marubashi, (2004), Geophys.Res.Lett.31, L21807, doi:10.1029/2004GL02702.