

Importance of weak magnetic field polarities in filament channels

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During the JOP178 campaign with THEMIS and Space instruments in October 2004, we have followed the evolution of a filament during two days.

A part of the filament vanished during few hours and reformed on October 16.

THEMIS/MSDP and MTR evidenced weak magnetic polarities in the filament channel.

A small emerging dipole close to a filament footpoint or barb causes the disappearance of this part of filament.

Later its submergence favours the reformation of the filament.

The sensitivity of THEMIS allows us to be confident with weak polarities of the order of 15 to 20 Gauss.

We crosscorrelate the magnetic field observed with THEMIS, MDI and SOLIS.

EUV images obtained with CDS show emission in EUV lines during the filament activity.

The filament has a hotter transition region when it is activated.