

[초SO-01] Toward understanding fine structures of solar prominences

Jongchul Chae

Department of Physics and Astronomy, Seoul National University

Quiescent prominences on the Sun look very different from active region prominences; active region prominences look like well-defined sets of horizontal loops of cool plasma and quiescent prominences often display vertical threads. Do they belong to the distinct groups or do they represent two extremes of a continuous spectrum of solar prominences? I will present some arguments supporting this view, based on the models of magnetic dips that have been proposed to explain the support of cool plasma against gravity. I will also present some new observations from the Hinode/SOT which support these traditional models.

[구SO-02] Measurement of the Rate of Flux Cancellation Using by SOT/Hinode

Soyoung Park and Jongchul Chae

Astronomy Program, Department of Physics and Astronomy, Seoul National University

The rate of magnetic flux cancellation is a parameter that it describe the electric energy of current sheet when opposite magnetic field lines converge to each other. In order to define the rate of flux cancellation, we have measured the magnetic flux cancellation and the interface length of the canceling magnetic feature from SOT/Hinode. According to our result, the mean value of the rate of flux cancellation is about 2×10^7 G cm/s which is higher value than previous result. In this talk, we will discuss the physical interpretation of this new result by using Sweet-Parker reconnection model and Petschek reconnection model.