



Encore of the Bashful ballerina in solar cycle 23

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The rotation averaged location of the heliospheric current sheet has been found to be shifted systematically southward for about three years in the late declining to minimum phase of the solar cycle. This behaviour, called by the concept of the Bashful ballerina, has earlier been shown to be valid at least during the active solar cycle of the last century since the late 1920s.

Recently, Zhao et al have analysed the WSO observations and conclude that there is no southward coning in HCS or north-south difference in the heliospheric magnetic field during the late declining phase of solar cycle 23.

In disagreement with these results, we find that there is a similar but smaller southward shift of the HCS and dominance of the northern field area as in all previous solar cycles. The present smaller asymmetry is in agreement with an earlier observation based on long-term geomagnetic activity that solar hemispheric asymmetry is larger during highly active solar cycles. Moreover, we connect the smallness of shift to the structure of the solar magnetic field with an exceptionally large tilt. We also discuss the cause of the differences between the two approaches reaching different conclusions.