



## **Steps of the Bashful Ballerina: Global structure of the Solar/Inner Heliospheric Magnetic Field (IHY CIP67)**

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Recently, systematic hemispheric and longitudinal differences have been detected in the properties of the heliospheric magnetic field (HMF) and in the heliospheric current sheet (HCS). The HMF sector coming from the northern solar hemisphere systematically dominates during some three years in the late declining to minimum phase of the solar cycle, leading to a persistent southward shift or coning of the HCS at these times. Correspondingly, the average field intensity is smaller in the northern solar hemisphere than in the south. This development, also described by the concept of the Bashful Ballerina, is related to the development of a global quadrupole moment in the global solar magnetic field. Long-term observations of the geomagnetic field can yield information on the HMF sector structure and show that the Ballerina was Bashful at least since 1920s. Moreover, it has been shown that the global HMF has persistent active longitudes whose dominance depicts an oscillation, the so called flip-flop cycle, with a period of about 3.2 years. Similar active longitudes are found in solar and stellar spots, indicating that active longitudes are a general pattern for cool stars. Moreover, the ratio of the activity cycle and the flip-flop cycle seems to be fixed to three. The IHY CIP67 (Steps of the Bashful Ballerina: Global structure of the Solar/Inner Heliospheric Magnetic Field) concentrates on these and related issues, aiming to obtain new insight using different solar and heliospheric parameters from several data bases. We describe the current status of these phenomena and discuss their implications.