Interhemispheric Comparison of the Dipole Tilt Angle Effects on Latitude of Mid-altitude Cusp

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A statistical study of the interhemispheric comparison of the dipole tilt angle effects on the latitude of the mid-altitude cusp is preformed by a data set of the Cluster cusp crossings over a 5-year period. The result shows that the dipole tilt angle has a clear control of the cusp latitudinal location. When the dipole tilts sunwards, the cusp is shifted poleward. The northern cusp moves 1 degree ILAT for every 15.4 degree increase in the dipole tilt angle, while the southern cusp moves 1 degree ILAT for every 20.8 degree increase in the dipole tilt angle. That suggests an interhemispheric difference in the dependence of cusp latitudinal location on the dipole tilt angle.