

Insight from the outside: The solar cycle from a heliospheric perspective

The distribution and evolution of magnetic flux at the photosphere is complex. It is dominated by mid-latitude magnetic flux emergence, which subsequently migrates to the poles, ultimately facilitating the solar cycle polarity reversal. This is morphologically different to the field reversal observed in the heliosphere, which proceeds as a simple rotation of an approximately dipolar field. The magnetically-dominated corona links these two disparate regions, though the processes responsible for the necessary solar cycle restructuring of the corona are not well understood. It has been suggested that coronal mass ejections (CMEs) play a critical role in coronal reconfiguration, by shedding excess helicity, adding flux to the heliosphere and transporting open flux in the manner required for the solar cycle polarity reversal. I will attempt summarise these ideas and the observations which support them.