

Study of process of the generation and disappearance of coronal holes using tracking module

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We have developed the automatic tracking module, which tracks the time variation of coronal holes based on the data from Atmospheric Imaging Assembly (AIA) on board Solar Dynamics Observatory (SDO) satellite and Sun Earth Connection Coronal and Heliospheric Investigation (SECCHI) on board two Solar TERrestrial RELations Observatory (STEREO) satellites. We have analyzed the process of the generation and disappearance of coronal holes using the module. The module has four main functions. (1)creating the Mercator map of the sun full, using the data from three satellites. (2)detect the regions of the coronal hole candidates by the intensity threshold. (3)remove the micro region by the size threshold and determine the regions which are tracked. (4)detect the same regions as determined one and track them on the Mercator map.

Because we always observe the sun full, we can track the coronal holes continuously. Therefore, We discuss how a coronal hole generate and how the hole disappear over six months.

Keywords: coronal hole, automatic detection, mercator map