

Examining the Properties of Jets in Coronal Holes

Data from the Solar Dynamics Observatory (SDO) were used to look for triggers of jets in a coronal hole. It has been proposed that bright points affiliated with the jets are caused by either random collisions between magnetic elements or by magnetic flux emerging from the photosphere; either of which can give rise to magnetic reconnection. Images from the 193AA filter of the Atmospheric Imaging Assembly (AIA) were searched to identify and locate jets. Changes in the line-of-sight magnetic field prior to the time of the jet were sought in data from the Helioseismic Magnetic Imager (HMI). In total we studied 15 different jets that occurred over a two day period starting 2011-02-27 00:00:00 UTC and ending 2011-02-28 23:59:55 UTC. All of the jets were contained within a coronal hole that was close to disk center. Of the 15 that we studied 6 were shown to have an increase of the parameter B^2 (where B is the line-of-sight component of the magnetic field), within one hour prior to the creation of the jet and 10 were within 3 hours before the event.