

Anemone-type structure of the solar corona and its role to the earth's magnetospheric disturbances

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Many anemone-like structures of the solar corona are analyzed on the basis of the Yohkoh SXT images. Brightness of all these are governed by a law that is expected from the so-called anemone-type magnetic structure that tends to cause the anemone-type reconnection.

Successive jets of the polar plumes found in the SOHO images suggest this type of reconnection in polar coronal holes. Role of the accelerated solar wind to the earth's magnetosphere are discussed.

The solar wind magnetic fields are unipolar; either away or toward, while there are many dipolar fields on the photosphere. Therefore, the coronal region must be filled by many anemone-type magnetic structures. Then, many anemone-type coroneae are selected from the Yohkoh SXT images.

The brightness of this type reveals that the distribution follows a law as expected from the above structures.

This distribution suggests that the anemone-type reconnection occurs frequently in the coronal region. The SOHO observation that successive jets of polar plumes in coronal hole are possible to be due to the reconnection, and to be the cause of the solar wind acceleration and the coronal heating.

The large-scale configuration of the coronal field is possible to explain the observational discrepancy that acceleration occurs seemingly and statistically at the distance of a few R_s , even though the solar wind is accelerated near the photosphere.