

Some Observations/Comments on Storm-Substorm Relations

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S.-I. Akasofu proposed the highly stimulating idea that magnetic storms may be created by/composed of lots of intense substorms. A more recent evaluation by Kamide et al. (1998) concluded that although all storms have been found to contain substorms, the role that the latter play is somewhat debatable. We will make some comments on this very important topic by addressing two separate subjects. First we will examine magnetic storm cases that do not have substorms, and secondly we will study cases where there are many substorms without storms. We conclude that it is the interplanetary drivers that determine whether or not there will be intense magnetic storms. On the other hand, substorms may be important in the dermination of the storm intensities.