



## **MLT dependence in the relationship between plasmopause, solar wind and geomagnetic activity based on CRRES: 1990-1991**

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We present linear and more complex plasmopause ( $L_{pp}$ ) models obtained by using the database of CRRES in situ observations of the plasmopause crossings. The models are parametrized by

- (a) solar wind coupling functions  $V$  (solar wind velocity),  $BV$  (related to the solar wind electric field, where  $B$  is the magnitude of the interplanetary magnetic field IMF), and  $d\Phi/dt$  (which combines different physical processes responsible for the magnetospheric activity), and
- (b) geomagnetic activity indices  $Dst$ ,  $A_p$  and  $AE$ .

The complex models are built by including a first harmonic in MLT.

The approach is based on cross correlation analyses and provides not only the  $L_{pp}$  shape, but additionally the information of the delays in the MLT response of the plasmopause.

We compare the  $L_{pp}$  shapes based on CLUSTER, IMAGE, THEMIS and CRRES datasets, and discuss the propagation of the convective instabilities through MLT sectors during maximum and around minimum of solar activity. This study contributes to constrain the MLT dependence of the plasmopause.