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The relationship between the behaviors of the different magnetospheric regions

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Disturbances in the magnetosphere caused by the entry of energy from the solar wind enhance the magnetospheric currents and it carries a variation of the geomagnetic field on different regions at the Earth's surface. Those magnetic field variations are measured by several indices. In this work, the AE and PCn indices at the auroral regions, the SYM-H and ASY-H indices at low latitudes and the am index to measure the global state of the perturbed magnetosphere, are used in order to obtain a relation between the behaviors of the different magnetospheric regions. A comparative study of those indices is carried out for a selected set of storms from 1981 to 2006 using the superposed epoch method.