Global MHD Simulation of the geomagnetic storm

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The response of the earth’s magnetosphere to variation of the solar wind parameters and interplanetary magnetic field (IMF) has been studied by using a high-resolution, three dimensional, global magnetohydrodynamic (MHD) simulation, when the WIND data of velocity Vx, plasma density, dynamic pressure every 1 minute were used as input. We have studied the energy transfer and tail reconnection in association with geomagnetic storms.