

# A Numerical Simulation of a Negative Sudden Impul

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impulse in the solar wind is carried out by using a MHD model of the solar wind-magnetosphere-ionosphere coupled system. The numerical simulation confirms mirror-image relationship of the ionospheric and magnetospheric signatures between the negative and positive impulses, which has been suggested by previous observations. The plasma processes associated with the negative impulse are again divided into the three phases, - the preliminary impulse phase, and the first and second main impulse phases in terms of the ionosphere-magnetosphere coupling. The SC transient cell convection in the second main impulse phase is related to the Region 2 current in the case of the negative impulse.