

## Response of afternoon convection cell to a sudden southward turning of the IMF

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We deal with an event where the IMF turns from northward (+6 nT) to southward (-19 nT) within 30 minutes and discuss the response of the ionospheric convection to the IMF southward turning. In fact we observe both (1) sudden response of the convection change from the noon to the midnight sector, and (2) equatorward expansion of the afternoon convection cell with the time delay of up to 20 min. These results are consistent with both immediate response theories (e.g., Ridley et al., 1998) and expanding convection cell theories (e.g., Lockwood and Cowley, 1999).