



Chronic or Permanent Coupling (CoP Coupling) between the lower and upper Martian atmospheres

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The studies on the coupling between the planetary lower and upper atmospheres usually focus on whether and how perturbations in the lower atmosphere can propagate into the upper atmosphere. However, another kind of coupling proves also effective. This coupling, so called chronic or permanent coupling (CoP coupling), is a hydrostatic process more than dynamic one since it maps the long time scale variations in the lower atmosphere into the upper atmosphere not by dynamics but through the hydrostatic structure changes of the atmosphere. In this presentation, cases of CoP coupling in Martian atmosphere are investigated and their ionospheric effects are emphasized. The results suggested that similar mechanism could be also valid on the Earth, and therefore cases of the impacts of typhoon on the terrestrial ionosphere are analyzed in the frame of CoP coupling.