



Low-energy ion outflow modulated by the solar wind energy input

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Due to the spacecraft charging issue, it has been difficult to measure low-energy ions of ionospheric origin in the magnetosphere. A recent study taking advantage of the spacecraft electric potential has found that the previously 'hidden' low-energy ions is dominant in the magnetosphere. This comprehensive dataset of low-energy ions allows us to study the relationship between the ionospheric outflow and energy input from the solar wind (ϵ). In this study, we discuss the ratios of the solar wind energy input to the energy of the ionospheric outflow. We show that the ϵ controls the ionospheric outflow when the ϵ is high, while the ionospheric outflow does not systematically change with the ϵ when the ϵ is low.