

Heavy ion escape processes for non-magnetized planet: Time development of escape flux in changing solar wind condition

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Mars and Venus do not possess a significant global intrinsic magnetic field, and hence the solar wind directly interacts with the ionosphere. Mars Express spacecraft observed the Martian tail and the heavy ions consisting of O^+ , O_2^+ and CO_2^+ escape from Martian ionosphere. On the other hand, Venus Express spacecraft observed the tail and the heavy ions consisting of only O^+ and do not observed the O_2^+ and CO_2^+ , which produced at the low-altitude region of the ionosphere. Because the heavy ions such as O_2^+ and CO_2^+ are produced at the low-altitude region of the ionosphere, the escape mechanisms are required. The heavy ions can flow-out in the low-altitude region in changing from high solar wind pressure to low solar wind pressure. We discuss the heavy ion escape fluxes in changing solar wind condition.