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EUV-dependence of Venusian ionopause height over the dayside high-latitude region:VEX and PVO observations

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Venusian ionosphere, similar to the other planetary ionospheres, is known to be responsive to the solar activity. Little is known about the EUV-dependence of Venusian dayside ionopause, which defines the outer boundary of the ionosphere. Though Pioneer Venus Orbiter (PVO) provided a wealth of data covering a period of one solar cycle (1978 - 1992), there are no in-situ measurements of the dayside ionopause during the solar minimum due to its lifted periapsis. Recently, Venus Express (VEX) provided measurements of ionopause over the northern high-latiutde region between 2006 and 2010, which is the longest and quietest solar minimum during the past several decades. We thus have an opportunity to analysis the EUV effect on the dayside ionopause in a whole solar cycle by combining the PVO and VEX observations together. We only focus on the high-latitude region (solar zenith angle 60° - 90°), where both PVO and VEX sampled, to avoid possible errors introduced by their orbital trajectories. Our results suggest that: The altitude of the dayside ionopause is increase as solar EUV flux increasing