



Magnetic observations of Venus ionosphere during Venus Express aerobraking campaign

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During the late days of the Venus Express mission, an aerobraking campaign was performed in May – July 2014. The altering of the spacecraft orbit allows the pericenter went to as low as 129.7 km in altitude, which is well below the main peak ionosphere altitude of ~ 140 km. Magnetic observations during aerobraking campaign shows that the Venus ionosphere exhibits the same magnetic properties as observed by Pioneer Venus Orbiter (PVO) during solar maximum for altitude above 150 km which was the lowest altitude reached by PVO: magnetized ionosphere with large-scale horizontal magnetic field; or unmagnetized ionosphere with numerous small-scale thin structures, so-called flux ropes. However, around or below main peak ionosphere altitude, we find only very low background magnetic field of several nanotesla, without any large magnetic belt or larger spikes of fields, the so-called flux ropes. Apparently the magnetization of the ionosphere or the penetration of the magnetic ropes stops at main peak ionosphere altitude.