



The comparative study on the flapping motion of Venusian magnetotail

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With a newly developed technique and magnetic field measurements obtained by the magnetometer on Venus Express, we study the flapping motion of the Venusian magnetotail. We find that the flapping motion generally comprises contributions both from a nonpropagating steady flapping and a propagating kink-like flapping. The flapping motion tilts the current sheet normal significantly in the plane perpendicular to the Venus-Sun line. The kink-like flapping waves traveling along solar wind electric field or its antirection can be found in either magnetotail hemisphere where solar wind electric field pointing toward/away. The traveling behaviors suggest that the locations of the triggers for kink-like flappings are near the boundaries between magnetotail current sheet and magnetosheath, not near the central region of magnetotail as is for the Earth's magnetotail.