弱磁化小天体のグローバルブラソフシミュレーション

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Global Vlasov simulation of weakly-magnetized small body

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The interaction between a plasma flow and a small dielectric body with a weak intrinsic global magnetic field is studied by means of a five-dimensional full electromagnetic Vlasov simulation with two configuration and three velocity spaces. In the present study, entry processes of ions into the nightside wake tail are examined. The simulation result shows that solar-wind ions are reflected at the dayside magnetopause and are picked up by the interplanetary magnetic field. Then, a small part of the reflected ions are taken into the deep wake tail near the body by the ExB cycloid motion.