

About the secular acceleration of Phobos

V. Mordovskaya (1) and A. Volokitin (1)

(1) IZMIRAN (valen@izmiran.ru / +007 495 334 01 24)

The probable mechanisms that may be responsible for the secular acceleration of Phobos are examined. The interaction of the magnetic fields of Phobos and Mars can lead to the secular acceleration of Phobos. This hypothesis is considered in detail. The estimation of the product of the magnetic moments of Mars and Phobos are made in the dipolar approximation. It agrees with the experimental data from Phobos mission and MGS. It should note that the magnetization of a Phobos substance that is necessary for the secular acceleration observed is the same that the magnetized crust of Mars. Further, using the secular acceleration of Phobos we estimated a time of a Mars crash.