**What conclusions about the dynamics of the magnetosphere can be drawn after analyzing the data from the MESSENGER spacecraft obtained in 2011-2015 in the vicinity of Mercury?**

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Based on the analysis of more than 4000 orbits of MESSENGER spacecraft around Mercury, the dynamics of the magnetopause and bow shock were obtained for 16 revolutions of Mercury around the Sun. In addition to variations in the size of the magnetosphere with changes in the dynamic pressure of the solar wind, the influence of the interplanetary magnetic field on the structure of the magnetopause has been studied. The role of the induction field in the conducting core of the planet under extreme compression of the magnetosphere has been studied. A technique for determining the displacement of a planetary dipole relative to the center of the planet using data from a spacecraft crossing the entire magnetosphere is considered. Also, the results obtained when analyzing the dynamics of the Earth’s magnetosphere during the storm on February 26 and 27, 2023 made it possible to explain the expansion of the oval of auroras during this storm into the middle latitudes.