

In the present work, we study one of the outer boundary of the Earth's magnetosphere, the magnetopause, its shape and location. The magnetopause is a region, where balance of pressures takes place, in particular the dynamic pressure of the solar wind and the Earth's magnetic field pressure. Our study is based on experimental data from Themis spacecraft magnetopause crossings and we create a database of these crossings. We use data from the subsolar region and from the region close to terminator ($x_{GSE} = 0$). We further supply these data with parameters of the solar wind from solar wind monitors. Magnetopause locations identified by the spacecraft are then compared with existing magnetopause models and we are searching for the causes of deviations between model and real locations. The most suitable solar wind monitor and the magnetopause model are chosen based upon these comparisons, and possible relations to other parameters not included in the models are then discussed. In the last part, we discuss possibility, advantages, and disadvantages of using any of Themis spacecraft as a near-Earth solar wind monitor.