



Influence of the tilt angle on the bow shock location

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Many studies were devoted to the influence of the tilt angle on formation of the magnetosphere as a whole and location of the magnetopause in particular. Experiments as well as MHD models reveal that the magnetotail is shifted vertically for non-zero dipole tilt and the vertical offset of the subsolar point from the Sun-Earth line varies nearly linearly with this angle reaching $\sim 3 R_E$ for maximum tilt and heaving only a weak dependence on solar wind dynamic pressure. Moreover, the cup magnetopause indentation was identified and its deepness and location is connected with the dipole tilt. However, corresponding changes of the bow shock shape and location were not reported.

We present a short study of bow shock locations for varying tilt angles. The study is based on a comparison of recent bow shock models with observations of many spacecraft.