

Space Plasmas in the Solar System, including Planetary Magnetospheres (D)  
Comparative Magnetospheres (D33)

## **A STUDY OF JUPITER'S MAGNETOPAUSE POSITION AND ORIENTATION**

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The solar wind is a supersonic magnetized fluid which continuously flow outwards from the solar atmosphere. When the solar wind flows through the solar system and encounters an obstacle such as a planetary magnetic field, a magnetosphere is formed. The boundary between the solar wind and a planetary plasma environments is the magnetopause. At this boundary, mass, momentum and energy exchange between the solar wind and the planetary environment occur. Jupiter has the largest and more complex magnetosphere of the solar system. The position and shape of Jupiter's magnetopause is determined by a balance between the solar wind dynamic pressure and the internal, magnetic plus plasma pressure of Jupiter magnetosphere. The objective of this work is to study the orientation and position of the Jupiter magnetopause, using magnetic field observations and the minimum variance analysis. To conduct this study,

we use magnetopause crossing data from the Voyager-1, Voyager-2 and Ulysses spacecraft. Finally, the position of the magnetopause is investigated in relation to the ambient solar wind conditions.