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20 Years of Cluster Observations: The Magnetopause

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The terrestrial magnetopause forms the boundary between the solar wind plasma with its embedded interplanetary magnetic field on one side, and the terrestrial magnetosphere, dominated by Earth's dipole field, on the other side. It is therefore a key region for the transfer of mass, momentum, and energy from the solar wind to the magnetosphere. The Cluster mission, comprising a constellation of four spacecraft flying in formation was launched more than 20 years ago to study boundaries in space. During its lifetime, Cluster has provided a wealth of new knowledge about the magnetopause. In this presentation, we give an overview of Cluster-based studies of this boundary, and highlight a selection of interesting results.