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Space weather at other planets : ionospheric effects

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Ionospheres are present in different bodies of the solar system. In this talk, we will review the current knowledge of the ionospheric parameters relevant to space weather for Venus, Mars, and the 2 giant planets that have been explored : Jupiter and Saturn. We will also make a point on Titan and on the ionised coma, which may be considered as the ionospheres of the comets. We will then review the theoretical problems that those bodies raise: the ionosphere behaves differently depending on the presence or the absence of a magnetic field. This magnetic field may belong to the body itself (like on Jupiter and Saturn), or to the mother planet (Titan). When no magnetic field is present, there are different interactions with the solar wind : a magnetic pile up and a pick up ions. All those conditins have different impacts on the design of the space exploration missions. We will detail these processes with a special focus on Mars.