



## URSI Extended Abstract Template

Ionospheric measurements using the subsurface sounding radars: MARSIS, SHARAD, RIME and REASON.

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The low frequency (around 9 MHz) radar signal propagating through the planetary ionosphere is dispersed and attenuated. The sounding radars implemented on Mars Express, on MRO and on the future missions for Europa and Ganymede has been and will be used to measure the Total Electron Content of the ionosphere. Therefore, one can observe the interaction of the atmosphere/ionosphere with the solar wind and/or the interactions with the Jupiter's plasma environments and magnetic field. On the chosen examples from measurements by MARSIS radar we will discuss the methods of TEC extractions and show some results of the ionospheric effects generated by the interaction of the atmosphere with the solar wind.

We will discuss also the applicability of this method to study the Jupiter's satellites environments on the future mission Juice and Europa Clipper.

### References

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