ID de Contribution: **39** Type: **Oral presentation**

Invited talk - The search for exoplanets in radio

vendredi 12 février 2021 15:30 (30 minutes)

Even before the discovery of the first exoplanet in 1995, radio observations inspired by the intensity of Jupiter' s radio emissions had begun. They proved to be extremely difficult, but also motivated the development of ever larger antenna arrays. The theory rather predicts emissions at low radio frequencies and of very low intensity. But the predictions are subject to large uncertainties on both intensity and emitted frequencies, and there was no guarantee that these radio emissions could be detected before the advent of SKA. In recent months, several papers have suggested that the tip of the radio detection iceberg is now emerging above the galactic background. If these detections are confirmed, they will open up a new and promising field of study: comparative exo-magnetospheric physics, i.e. the physics of star-planet plasma interactions. In this field, we know only 6 planetary magnetospheres in the solar system, all quite different from each other. The detection of tens or hundreds of analogs will be a revolution comparable to the one that the discovery of exoplanets' orbital parameters has brought to solar system formation models. I will make a brief review of the theoretical bases of this research, an inventory of the observations with emphasis on recent detections, and I will give some perspectives.

Field

Planetology (including small bodies and exoplanets)

Day constaints

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Classification de Session: Invited talk

Classification de thématique: Astrophysics