



Ionosphere space weather in action - storms, waves and irregularities

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Modern radio communication and navigation systems are applications most affected by the ionosphere space weather in action. Therefore, they could benefit significantly from accurate specification of the ionospheric conditions when storms, waves and irregularities are in progress. Even with current improvements in modelling techniques and increased quality and amounts of ground- and space-based data assimilation, ionospheric nowcasting and forecasting remain difficult. The presentation intends to provide a review of the latest key links between solar activity and the various physical processes, which govern disturbed ionospheric plasma structure that has been under scientific examination over past several decades but has lately received considerable importance in relation to ionosphere space weather services. Specific examples during recent extremely low solar activity and at the beginning of the new solar cycle will be used to show how observing and modelling techniques could be incorporated in ionospheric specification models for real-time operational applications.