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Progress Towards the Real-Time International Reference Ionosphere

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The International Reference Ionosphere (IRI) model was developed as the empirical standard for specifying the densities and temperatures of the Earth's ionospheric plasma. IRI has been updated and improved as new data became available and as the dependencies on geophysical parameters became better understood. The latest version of the model, IRI-2012, introduces significant improvements and new model parameters. These advances will be briefly discussed. But the main topic of this presentation is the development of the Real-Time IRI. The standard IRI model provides monthly averages based on several solar and magnetic indices that are given as input parameters. It has long been the goal of the IRI team to establish a Real-Time IRI to assist the many users who require information about the actual (real-time) conditions in the ionosphere. Several updating and assimilatative approaches have been proposed to combine the IRI model with real-time measurements. Special workshos on this topic were held at the US Air Force Academy (Colorado Springs, USA) in April of 2009 and at the Institute of Atmospheric Physics (Prague, Czech Republic) in March 2012. We will discuss the outcome of these meetings and the status of the IRI Real-Time (IRI-RT) activities.