

Ionospheric Research with Satellite Derived TEC

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Abstract

TEC measurements derived from different types of radio signals sent by satellites will be described. Advantages and limitations of these measurements will be discussed.

An overview of the contribution of satellite derived TEC to the understanding of the behavior of the terrestrial ionosphere will be given.

Date: Thursday 28 October 2010

Time: 09:00-10:50

Room: Kastler Lecture Hall @ Adriatico Guest House

Prof. Sandro M. Radicella

Head of the Aeronomy and Radiopropagation Laboratory (ARPL) of the Abdus Salam International Centre for Theoretical Physics (ICTP) since 1989. He has authored and co-authored more than 130 papers in the fields of aeronomy and radiocommunications. Formerly he was university professor and principal researcher of the National Council of Scientific and Technological Research of Argentina. In that country he organized and directed for 20 years the National Program of Radiopropagation (PRONARP).

The most important achievement of his recent scientific production is the development of models of vertical distribution of electronic density in the ionosphere in collaboration with colleagues from the ARPL and of the University of Graz, Austria. One of these models has been adopted in the final output of the European COST 238 action (Prediction and Retrospective Ionospheric Modelling over Europe) and has been the basis for the model adopted by the COST 251 action (Improved Quality of Ionospheric Telecommunication System Planning and Operation). This last model has being used by the European Space Agency for assessment studies related to the development of the European GNSS Augmentation System EGNOS. It has also been adopted as the model for ionospheric corrections for single frequency operation by the European GALILEO satellite system.

Since 1989 he has organized and directed at the ICTP a series of Colleges, Schools and Workshops, for participants mainly from developing countries, in the fields of Ionospheric Physics, Radiocommunications and Information and Communication Technology.

He has been awarded in 2001 with the Doctor Honoris Causa degree from the University of Bucharest, Romania, and in 2005 with the Doctor of Science degree Honoris Causa from the Obafemi Awolowo University in Ile-Ife, Nigeria.