COST 238/PRIME WORKSHOP

on "Development an Testing of an electron density height profile model for PRIME"

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OVERVIEW

COST (Cooperation in Scientific and Technological Research) is an initiative of the European Union providing a framework whereby researchers in the different Member States can work together to mutual advantage on common problems, thereby helping to build up an improved Community technological base to better support industry. COST covers a range of disciplines, one of which is Telecommunications, and consists of a number of separate Projects (Actions) each with defined objectives and lifetimes.

PRIME (Prediction and retrospective ionospheric modelling over Europe) was formally initiated as Project COST 238 in March 1991 as a four-year project aimed at developing improved models of the European ionosphere for telecommunications applications, but the work has its origins earlier arising from existing collaborations in the areas of vertical and oblique-incidence sounding. We now have active participation from groups within 18 Western and Eastern European countries.

With separate teams formed from within the different organisations on a topic-by-topic basis, work has progressed by correspondence stimulated by periodic Workshops at which papers have been presented to the full group. With adequate planned times for discussion Workshops have proved valuable fora for the formulation of plans for the ways ahead.

The 7th Workshop in the series with some 40 participants was held at El Arenosillo, Mazagon, Spain on 5-6 September 1994 followed by a three day management meeting. The Workshop theme was the 'Development and testing of an electron-density height profile model for PRIME'. In total 19 papers were presented, also covering other topics in the fields of vertical and oblique sounding, instantaneous and long-term mapping and short-term predictions. Additionally there were some 10 poster papers. This last Workshop to be organised under project auspices can indeed be regarded as most successful. Besides paving the way for specification of a height profile model of electron density (with a specialised group commissioned to meet subsequently in Florence, Italy in October 1994 to finalise this) most important decisions were taken on the methods of long-term and instantaneous mappings to adopt. I am grateful to the Working Group Leaders for their help in formulating the Workshop programme.

This Proceedings contains a selection of Workshop papers. In addition, each Session Chairman and Working group Leader has provided a summary covering the ensuing discussion. Thanks should be extended to all who contributed to the Workshop both in preparing presentations and in participating in the discussions. I believe that in a very full programme optimum use was made of the available time and that good and timely overall progress is being made towards our agreed goals.

We are all grateful to Dr Benito A de la Morena from the Centro de Experimentacion de El Arenosillo of the Instituto Nacional de Técnica Aeroespacial for hosting us. We extend our sincere thanks to him and his colleagues for all they did to ensure the event was a success. We especially thank Colonel Juan Jose Martin Francia, Director of the El Arenosillo facility, for allowing the meeting to take place and INTA, provincial and local governments for their hospitality.

Sadly this was the last occasion on which everyone was present together. It was indeed a fitting and very memorable way to end.

Finally our thanks go to Benito for preparing this publication.

Peter A Bradley
Chairman COST 238

Progress in Oblique Ionogram Inversion

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This is a report on the use of a new fast software program of Dr Krasheninnikov developped in order to extract from three points of the ordinary trace of an oblique ionogram three quasiparabolic parameters of the electron density profile at the mid path. AS inputs, the program needs also three points from the extraordinary trace and outputs three others quasiparabolic parameters. These parameters should be the same as the first one but they are not and could be quite different! The problem is to adjust the input points to make the difference acceptable.

The try and error method is imprctible because of the time is requires.

The use of the data from the Precision Group Height method (see URSI Kyoto meeting abstracts p327) improves the situation as it is the case when one use a ray tracing program as a guide.

At this moment, it is not possible to consider this program as operational to produce good final results quickly enough.