São José dos Campos, 26th May 2014

14th International Workshop on
Technical and Scientific Aspects of MST Radar
26th May 2014

Leonel F. Perondi

Good Morning

On behalf of the National Institute for Space Research (INPE) I would like to welcome you to the 14th International Workshop on Technical and Scientific Aspects of MST Radar.

The event has the objective of reviewing the latest applications and technical and scientific advances in the area of the Mesosphere-Stratosphere-Troposphere radar sounding technique.

Let me take this opportunity to very briefly introduce some of INPE´s activities, mainly those bearing on this event.

Established in 1961, INPE's mission may be briefly stated as follows: "to be the national reference in Space Science, Space Technology and their applications, while promoting direct returns to society in terms of products and services, industrial policy and diffusion of knowledge".

The Institute develops activities in five main areas: Space Science (Astrophysics, Aeronomy and Geophysics), Space Technology, Meteorology, Earth Observation and Climate Change.

With around 1000 staff members, including researchers, technologists and technicians, the Institute attempts to implement a complete cycle of innovation, developing activities which go from basic and applied research projects, through product and service development, up to making available to society innovative services and products, that impact social and economic life.

In the space technology area, through different levels of cooperation, INPE has designed, manufactured, integrated and operated in orbit five satellite systems, comprising two data collecting satellites and three Earth remote sensing satellites.

The data collecting satellites, SCD-1 and SCD-2, launched in 1993 and 1998, respectively, operate in an almost equatorial orbit, collecting data from around 700 hydro-meteorological platforms scattered over the Brazilian territory and making these data available, daily, to more than 80 users.

The remote sensing satellite systems have been set up in cooperation with China, in an international program that started in 1988. The first China-Brazil Earth Resources Satellite, CBERS-1, began operation in 1999. It was followed by CBERS-2, in 2003, and CBERS-2B, in 2007.

The satellite CBERS-3 was lost in a launch mishap at the end of last year. According to the current schedule baseline, CBERS-4 shall be launched by December this year.

Preventing, controlling and assessing the deforestation in the Amazon Region have long been important targets for the Brazilian Government.

Through a pioneering system developed by INPE, referred to as PRODES, annual changes in the Amazon forest coverage have been computed and taken by the Brazilian government as the Brazilian official data for the yearly deforestation rate taking place in the Amazon region. The annual deforestation estimates and related data produced by the PRODES system constitute an important instrument for the definition of long term policies for the Amazon region.

INPE runs the Center for Weather Forecasting and Climate Studies – CPTEC, which is recognized by the World Meteorological Organization as a center of excellence in education and is the Brazilian national reference for numerical weather forecasting.

More specifically related to this meeting, the Space Science area of INPE has as its mission the development of basic and applied research aimed at studying the physical and chemical phenomena which take place in the atmosphere and outer space.

The Coordination was established together with the Institute itself, in 1961, and has been hitherto an important protagonist in a number of scientific and technological developments in the area.

The pioneering detection of an ionospheric phenomenon consisting of large-scale plasma depleted regions, or ionospheric plasma bubbles, took place in the year of 1976, through optical observations of the ionosphere at INPE´s centre at São José dos Campos and afterwards at Cachoeira Paulista station, the latter being located at about 100 km from São José dos Campos. The discovery of this important ionospheric phenomenon, which severely interferes with telecommunications over the Brazilian territory, took place somewhat concurrently with its observation at other parts of the world, using other measurement techniques.

Beginning in 2007, under the support of the Ministry of Science and Technology, INPE´s Space Weather Programme aims at continuously monitoring the space weather and climate, by satellite and ground based observations, and providing useful information to space related communities, mainly in the form of an alert system.

In summary, INPE´s area of Space Science, through a range of activities covering pure and applied research, innovative products and services offered to society, is a reference centre for scientific and applied research in Brazil and abroad.

The main theme of the present workshop bears directly on a number of projects of the Space Science Coordination of INPE.

The FISAT, IONO, GEOMA, LUME and MAGHEL projects, making use of several sounding methods, among them radar techniques, develop studies of the physical and chemical properties in a wide range of altitudes, from about 20 km in the stratosphere, up to about 1000 km and beyond, in the magnetosphere.

Radar techniques represent a powerful tool for improving the understanding of a wide range of phenomena taking place at different levels of the atmosphere and ionosphere.

The combination of radar observations with in-situ and remote sensing methods, supported by models and simulations, yield a quite complete view of the Earth's atmosphere and ionosphere environment.

I am plainly convinced that the present event, with more than 80 oral presentations and seven poster sessions, will very much contribute for the dissemination of state-of-the-art knowledge among our scientists and researchers.

I shall take this opportunity to compliment and congratulate the scientists, engineers, technical experts and students attending this workshop, who, with their talks and posters, will contribute for the presentation (displaying) of an ample view of the state-of-the-art of the science, technology and applications of the MST radar technique.

I would like to express my special thanks for Dr. Andreas Muschinski, Dr. Marco Antonio Milla Bravo, Dr. Craig Heinselman, Dr. Jorge L. Chau and Dr. Juha Vierinen, renowned specialists in the fields of study of this event, who will deliver keynote lectures. I shall say that we are very much honoured to receive you in our Institute.

Through the name of Dr. Alisson Del Lago, Head of the Division of Space Geophysics, I would like to express my congratulations to all staff from the Division of Space Geophysics, under which this event is taking place.

To Dr. Erhan Kudeki, Dr. Werner Singer and Dr. Clezio De Nardim I would like to express my special compliments and thanks, and through them compliment and thank all members of the Local Organizing Committee and of the International Steering Committee. Their effort was fundamental for the realization of this event.

Through the name of Dr. Oswaldo Duarte Miranda, General Coordinator of INPE´s Space Science Coordination, I would like to express my congratulations and thanks to all the research and technical staff from the Space Science Area of INPE.

I would like to express my compliments to all our institutional partners in this endeavour, and especially thank the sponsors of the event: ATRAD, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior, Fundação de Amparo à Pesquisa do Estado de São Paulo e Prefeitura Municipal de São José dos Campos.

I very much thank the presence in this brief opening ceremony of the Mayor (or representative) of São José dos Campos County, Mr. Carlinhos de Almeida. The local County and INPE are close partners in several initiatives.

We are proud of holding this important Workshop at INPE. To all participants, my wishes of a very fruitful week of work, and a nice stay in São José dos Campos.

Thank you.

L.F.Perondi
São José dos Campos, 26th May 2014.