



International Civil Aviation Organization

THE SIXTH MEETING OF IONOSPHERIC STUDIES TASK FORCE (ISTF/6)

Bangkok, Thailand, 19 – 21 January 2016

Agenda Item 3: Review of status of States' activities and ISTF webconferences

INTRODUCTION OF RECENT JAPANESE SWX ACTIVITY, PSTEP PROJECT

(Presented by NICT, Japan)

SUMMARY

This paper presents the introduction of PSTEP project, one of the recent Japanese activity. More than 100 scientists participate into the project to reveal the missing link of space weather and to provide useful information for SWx information users.

1. INTRODUCTION

1.1 Although solar activity is now known to significantly impact the global environment as well as human socio-economic systems, the mechanisms for solar eruptions and the subsequent processes have not yet been fully explained. Thus, modern society, which is supported by advanced information systems, is at a risk from severe space weather disturbances. Note that giant solar eruptions can be caused by such disturbances.

1.2 This project, Project for Solar-Terrestrial Environment Prediction (PSTEP), is a nation-wide research collaboration that is supported by a Grant-in-Aid for Scientific Research on Innovative Areas from MEXT/Japan. PSTEP is organized by four research groups (A01–A04) and proposal-based research units.

1.3 By this project, we seek to answer some of the fundamental questions concerning the solar-terrestrial environmental system such as the mechanism for the onset of solar flares, the mechanism for radiation belt dynamics in the Earth's magnetosphere, and the physical process by which solar activity affects the climate. Moreover, we aim to contribute to building a next-generation space weather forecast system to prepare for severe space weather disasters that will occur in future.

2. DISCUSSION

2.1 There are four working groups other than steering committee in PSTEPS;

- A01: Space Weather forecast system
- A02: Solar storms
- A03: Geospace Dynamics
- A04: Solar Cycle activities and Impact on Climate

2.2 The activity on A01 is very close to the working items on ISTF. We plan four products for SWx users.

- Radio Propagation Simulator
- Taylor-made Space weather system for satellite anomaly
- Radiation monitoring system for aviation and human space activities
- Ground Induction Current monitoring system

2.3 It is important to receive opinions from information users for building useful information providing system in PSTEP.

3. ACTION REQUIRED BY THE MEETING

3.1 The meeting is invited to:

- a) note the information presented about PSTEP, especially the status of building products; and
- b) discuss comments and requirements from space weather information users perspective in order to build useful systems for operators on aviation.
