

SCOSTEP-WDS Workshop

# Global Data Activities for the Study of Solar-Terrestrial Variability

28-30 September 2015

National Institute of Information and Communications Technology (NICT), Tokyo, Japan



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## SCOSTEP-WDS合同ワークショップ Global Data Activities for the Study of Solar-Terrestrial Variability におけるIUGONETの活用

渡邊 堯

WDS International Programme Office

SCOSTEP-WDS Workshop

# Global Data Activities for the Study of Solar-Terrestrial Variability

28-30 September 2015

National Institute of Information and Communications Technology (NICT), Tokyo, Japan



Web Page: <http://isds.nict.go.jp/scostep-wds.2015.org/>

Contact Point: [contact-scostep-wds@icsu-wds.org](mailto:contact-scostep-wds@icsu-wds.org)

開催日：2015年9月28－30日

会場：情報通信研究機構（小金井）

主催：SCOSTEP, WDS

共催：名大STE研、国立極地研、NICT

後援：ICSU、日本学術会議（予定）

**SCOSTEP**  
Scientific Committee on Solar-Terrestrial Physics



WORLD DATA SYSTEM

#### Important Dates

Abstract Submission:

1 April – 1 August 2015

Registration:

1 April – 15 September 2015

Proceedings Submission:

1 October 2015 – 31 January 2016



# SCOSTEP-Related WDS Members (Feb. 2015)

Alaska Satellite Facility
Atmospheric Science Data Center (Distributed Active Archive Center)
Australian Antarctic Data Centre
Canadian Astronomy Data Centre/ Canadian Virtual Observatory
Centre de Donnees astronomiques de Strasbourg (CDS)
Chinese Astronomical Data Center
Chinese Space Science Data Center
DKRZ- WDC Climate
Environment Climate Data Sweden
Goddard Earth Sciences Data and Information Services Center (GES DISC)
INTERMAGNET
International Service of Geomagnetic Indices
International Space Environment Service (ISES)
International Virtual Observatory Alliance (IVOA)
IPS Radio and Space Services
Italian Centre for Astronomical Archive - IA2
Paleoclimatology Branch, NOAA's National Climatic Data Center
Ukrainian Geospatial Data Center

WDC - Geoinformatics and Sustainable Development
WDC - Geomagnetism, Copenhagen
WDC - Geomagnetism, Edinburgh
WDC - Geomagnetism, Kyoto
WDC - Geomagnetism, Mumbai
WDC - Ionosphere and Space Weather
WDC - Meteorology, Asheville
WDC - Meteorology, Obninsk
WDC - Remote Sensing of the Atmosphere
WDC - Rockets, Satellites and Earth Rotation
WDC - Solar Activity / BASS2000
WDC - Solar-Terrestrial Physics, Moscow
WDC - Sunspot Index and Long-term Solar Observations (SILSO)
World Data Services for Geophysics (NGDC)
WDC for Cosmic Rays
WDC for Aurora
WDC for Scientific Satellites

# Data Systems in SCOSTEP Community

## (partial listing)

- Virtual Observatories
- SPASE
- SPIDER
- ESPAS
- IUGONET
- WDC for STP, Moscow
- Data systems operated by individual scientific projects

- We need a mechanism to integrate data produced by research activities of scientists.
- A common **Data Policy** and a system to ensure **Proper Recognition** of data providers are needed.





# Variability of the Sun and Its Terrestrial Impact

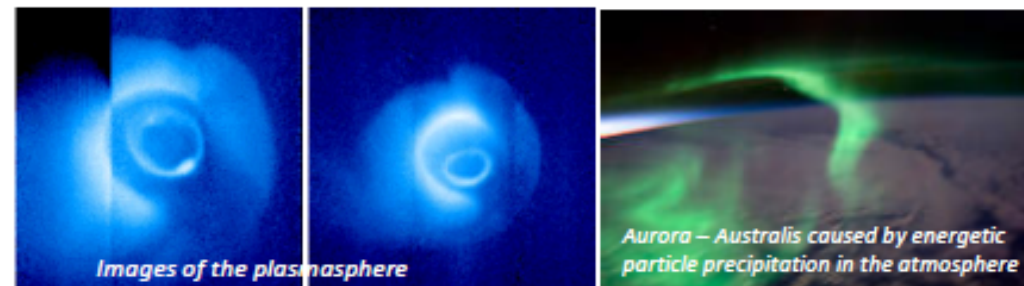
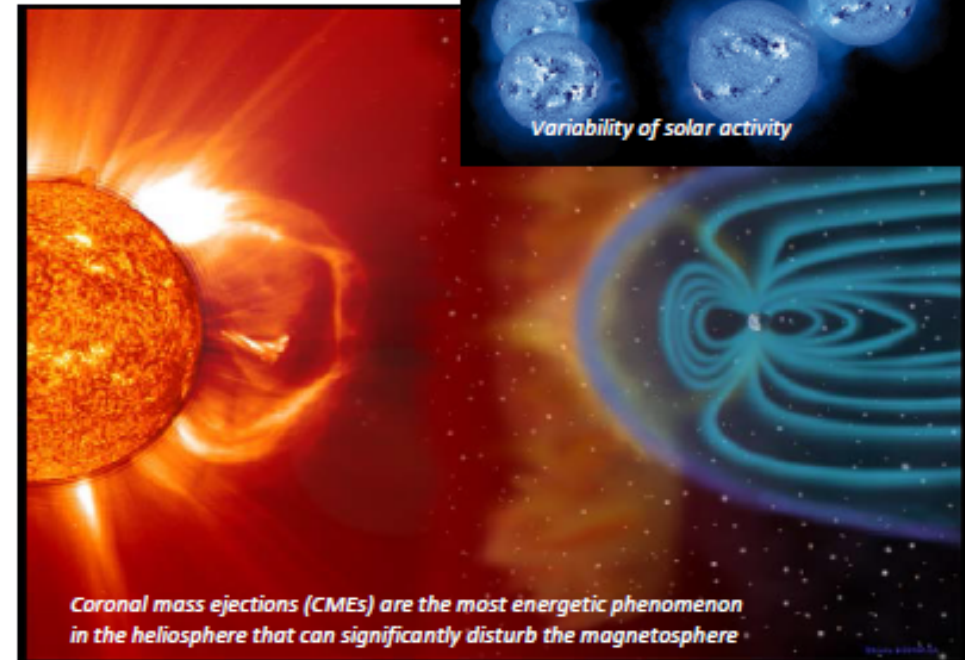
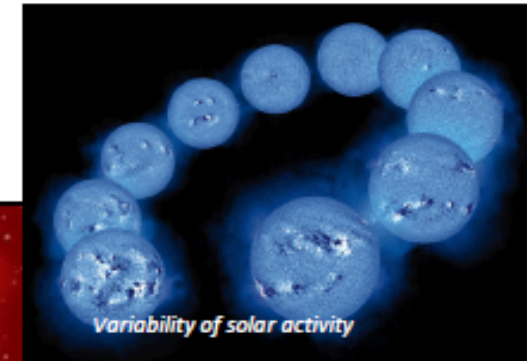
## VarsITI

SCOSTEP is an ICSU Interdisciplinary Body tasked with the responsibility to organize long-term scientific programs in solar terrestrial physics and *Variability of the Sun and Its Terrestrial Impact (VarsITI)* is that program for the period 2014 – 2018. VarsITI was defined based on a community effort in the form of a forum organized by the International Space Science Institute (ISSI) in Bern in May 2013. The VarsITI program will strive for international collaboration in data analysis, modeling, and theory to understand how the solar variability affects Earth. The VarsITI program will have four scientific elements that address solar-terrestrial problems keeping the current low solar activity as the common thread:

- 1) SEE (Solar evolution and Extrema)
- 2) ISEST (International Study of Earth-affecting Solar Transients/MiniMax24)
- 3) SPeCIMEN (Specification and Prediction of the Coupled Inner-Magnetospheric Environment), and
- 4) ROSMIC (Role Of the Sun and the Middle atmosphere/thermosphere/ionosphere In Climate).

### VarsITI Co-Chairs:

**Prof. Katya Georgieva, Bulgaria**  
**Prof. Kazuo Shiokawa, Japan**



# Motivation

- WDS-IPOが日本(NICT)に設置されているため、科学組織委員会(WDS-SC)は概ね隔年で日本で開催。それに合わせて国際研究集会を企画(2011年:WDS京都会議、2013年:Polar Data Forum)。次回は2015年秋。**WDS-SC委員の交替時**。
- WDSはSCOSTEPとの関連が深いWDCとFAGSを土台として発足しており、現在約90ヶ所のメンバーのうち、1/3が太陽地球系分野に関連がある。
- SCOSTEP関連分野では、IGY以来データの品質管理、長期保全、共有、データの共同解析に向けた活動が活発。VarSITIでも、データ活動は重要な要素。
- SCOSTEPとWDSとは、データに関して共通の目標や問題点を持っている。
- そこでWDSとSCOSTEP(VarSITI)との連携を強化するため、データプロバイダ、データ科学研究者、データ解析研究者による国際研究集会を開催することとした。



Article 3



# Collaboration between ICSU World Data System and SCOSTEP/VarSITI

**T. Watanabe<sup>1,2,3</sup> and R. Edmunds<sup>1</sup>**

<sup>1</sup>ICSU WDS International Programme Office, Tokyo, Japan

<sup>2</sup>Solar-Terrestrial Environment Laboratory, Nagoya University, Nagoya, Japan

<sup>3</sup>National Institute of Information and Communications Technology, Tokyo, Japan



Takashi Watanabe



Rorie Edmunds

# SCOPE

- Stimulate collaboration between SCOSTEP and WDS in **long-term** archiving and opening of **quality-assessed** data produced by VarSITI and related programs
- Build a “feed-back loop” between data providers (+archivers) and data users
- Introduce advanced information technologies to data-oriented activities under VarSITI



### **Scientific Organizing Committee (\* Committee Chairs)**

T. Watanabe*	ICSU WDS International Programme Office
K. Shiokawa*	Solar-Terrestrial Environment laboratory, Nagoya University
J. Zhang*	George Mason University
J.B. Minster	Scripps Institute of Oceanography, University of California
M. Mustapha	ICSU WDS International Programme Office
V. Kopylov	All-Russian Research Institute of Hydrometeorological Information-World Data Center
W. Hugo	South African Environmental Observatory Network
T. Iyemori	WDC for Geomagnetism, Kyoto, Kyoto University
N. Gopalswamy	Goddard Space Flight Center, NASA
V. Obridko	IZMIRAN, Russian Academy of Science
T. Nakamura	National Institute of Polar Research
Y. Miyoshi	Solar-Terrestrial Environment laboratory, Nagoya University

### **Local Organizing Committee (\* Committee Chairs)**

K. Shiokawa	Solar-terrestrial Environment Laboratory, Nagoya University
N. Nishitani*	Solar-terrestrial Environment Laboratory, Nagoya University
M. Mokrane	WDS-International Programme Office
T. Watanabe*	WDS-International Programme Office
R. Edmunds	WDS-International Programme Office
Y. Murayama	National Institute of Information and Communications Technology
K. Murata	National Institute of Information and Communications Technology
S. Watari	National Institute of Information and Communications Technology
T. Nakamura*	National Institute of Polar Research
T. Iyemori	WDC for Geomagnetism, Kyoto, Kyoto University
Y. Ebihara	Research Institute for Sustainable Humanosphere, Kyoto University
S. Abe	International Center for Space Weather Science and Education, Kyushu University

# General structure of the workshop (TBD):

**(S1) Data activity of VarSITI and WDS**

**(S2) Data-oriented information technology**

**(S3) Reports of data activities by participants of VarSITI and WDS**

**(S4) VarSITI data analysis session**

**(S5) Collaboration of WDS and SCOSTEP/VarSITI**

Date (2015)	AM	PM	Evening
27 Sep. (SUN)			Registration Icebreaker
28 Sep. (MON)	Data activity of VarSITI and WDS (S1)	Data-oriented Information Technology (S2)	Meetings
29 Sep. (TUE)	Reports of data activities by participants of VarSITI and WDS (S3)	VarSITI Data analysis Session (S4)	Informal Banquet
30 Sep. (WED)	VarSITI Data analysis Session (S4)	Collaboration of WDS and SCOSTEP/VarSITI (S5)	

# (S4) VarSITI data analysis session

- データアクセス・解析システムのShow Case
  - イベント解析
  - イベント解析研究の講演
  - パラレル・セッション可能
- 
- IUGONETによる、イベント(現象)のオンライン解析。SPDAS向きの現象は？
  - STE現象報告会との連携



# Variability of the Sun and Its Terrestrial Impact

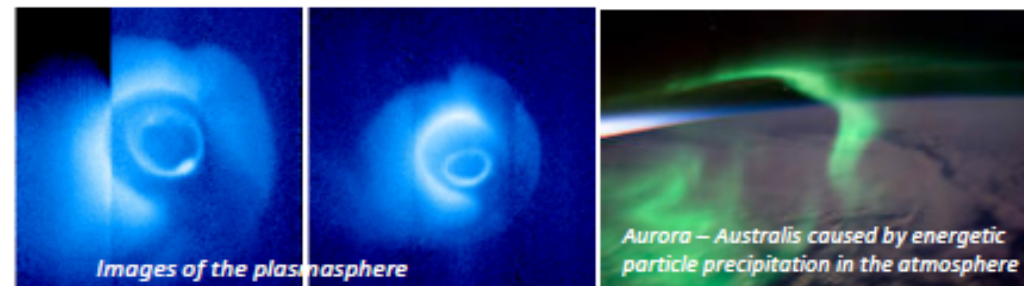
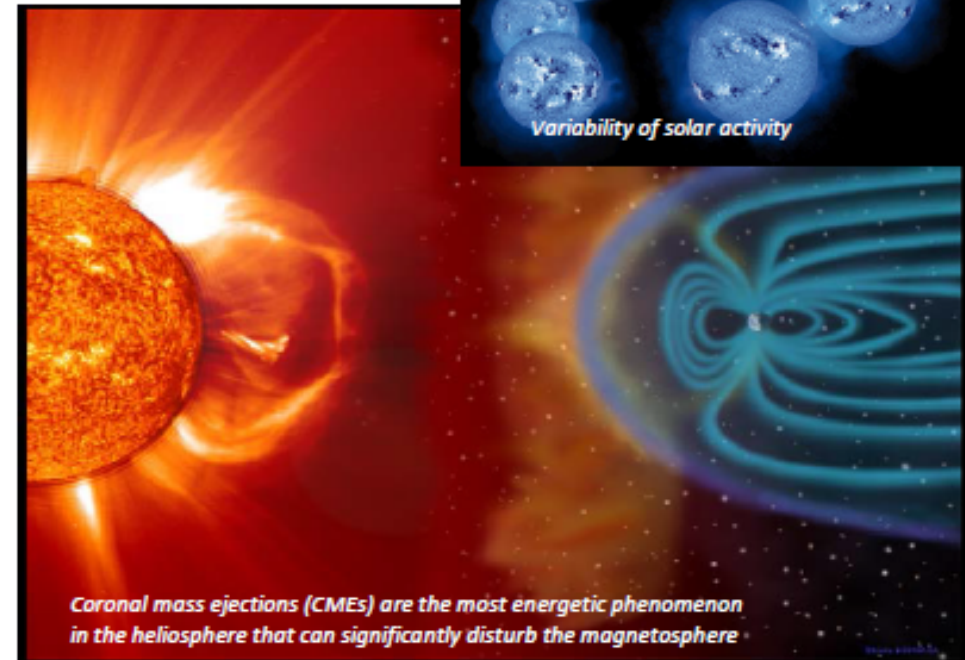
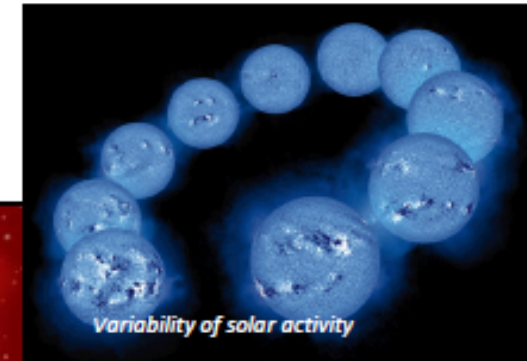
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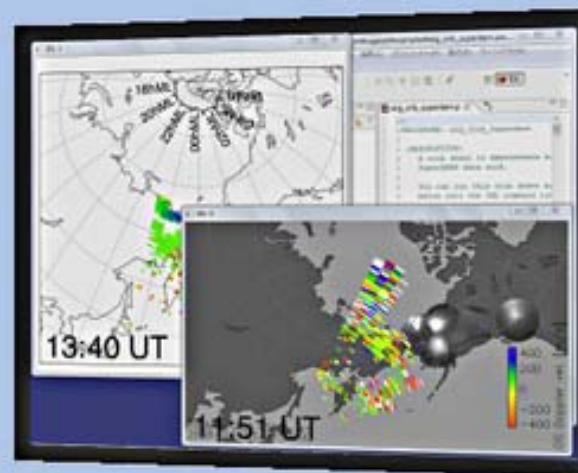
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**Prof. Kazuo Shiokawa, Japan**



## For radar data analysis **UDAS**

SuperDARN, EISCAT, MU, and so forth >>



@Tweets by @iugonet

### - Information -

New IUGONET pamphlet has been released. (Apr 1, 2014)

UDAS v3.00.3 has been released. (Dec 28, 2013)

[Join IUGONET users mailing list.](#)

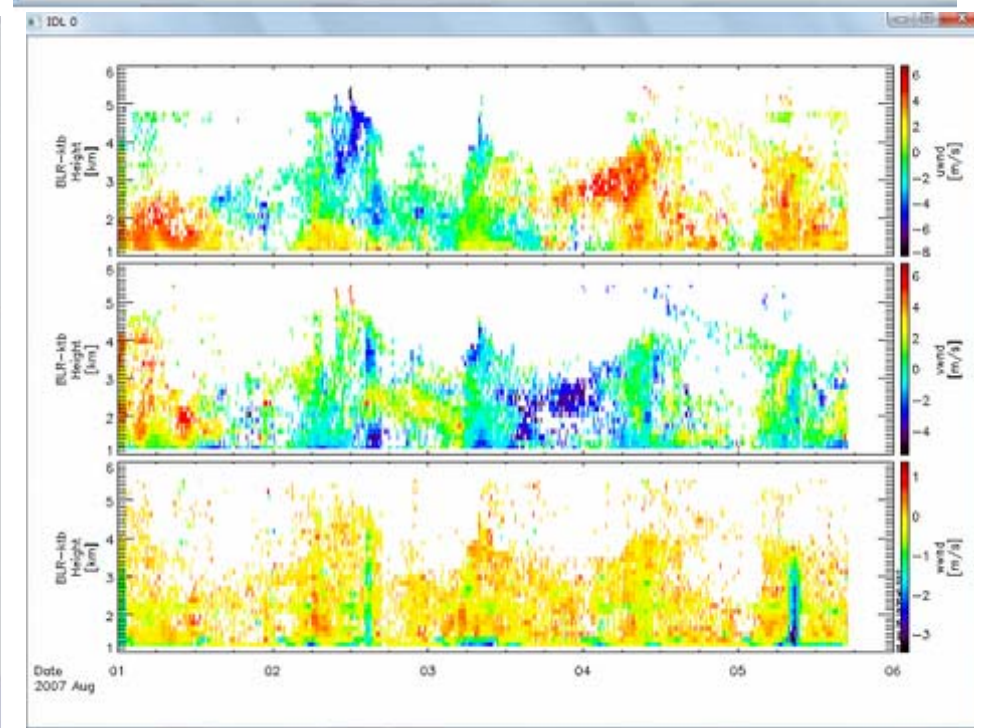
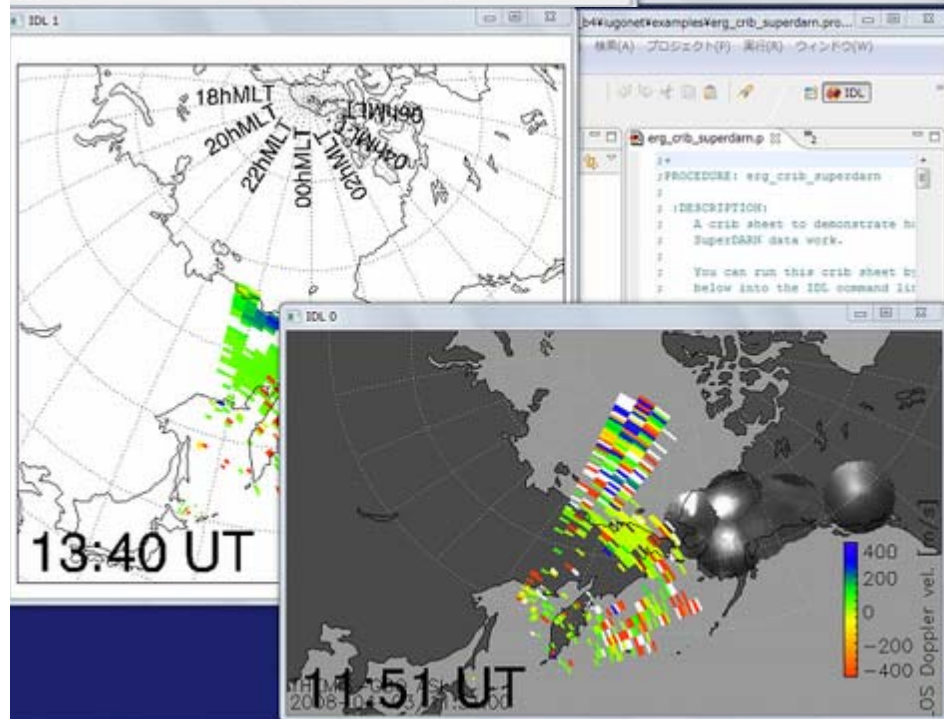
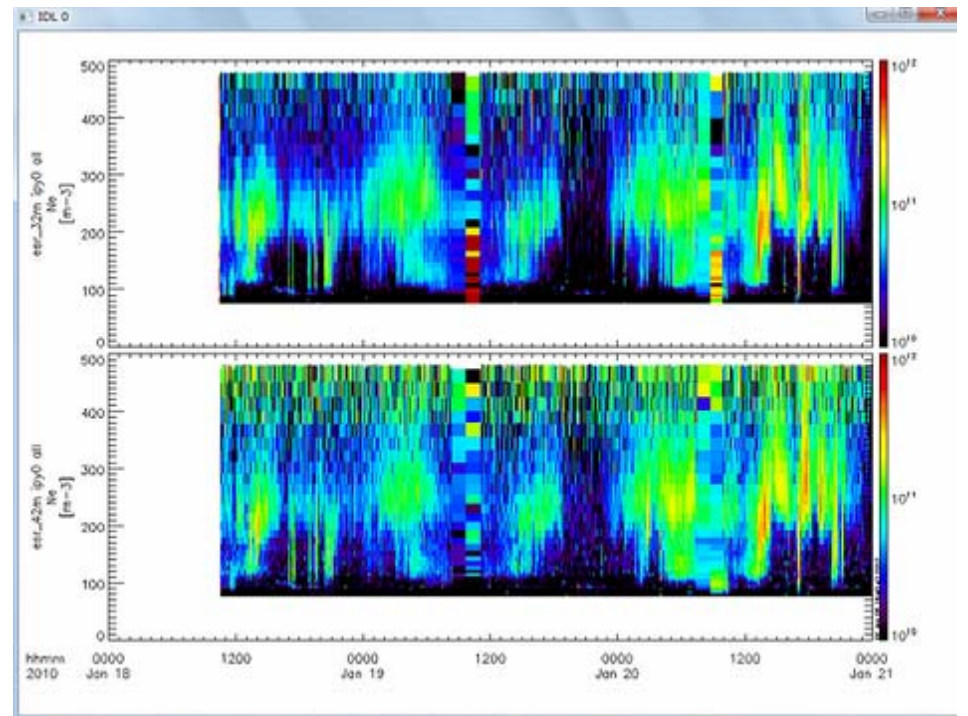
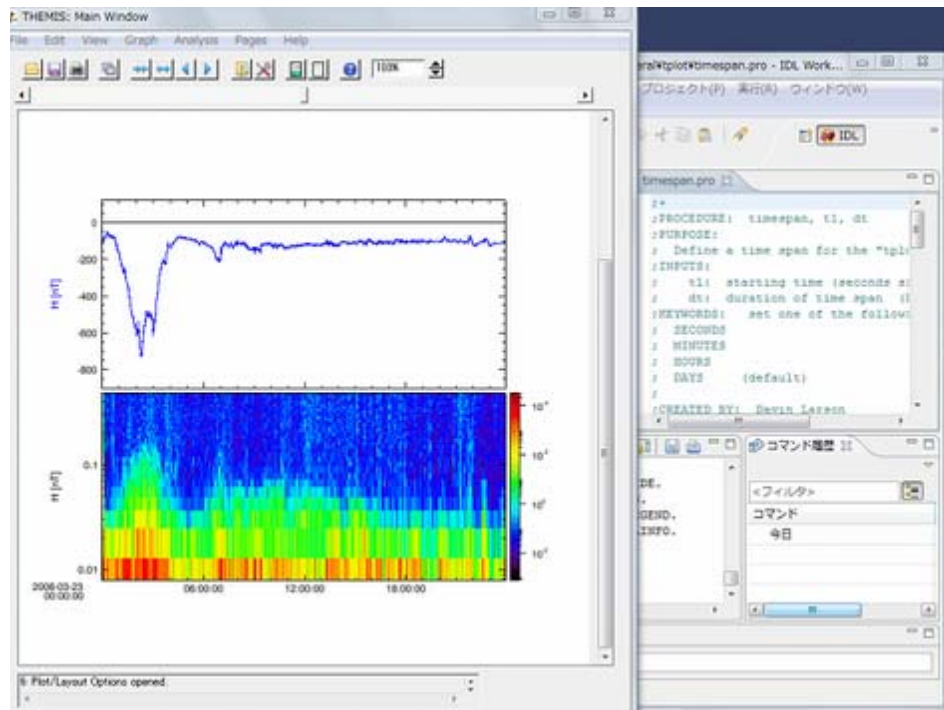
IUGONET provides new research platforms, [metadata database](#) and [analysis software UDAS](#), to facilitate the use and distribution of the long-term observation data for upper atmospheric physics that have been archived by the IUGONET members and collaborators. The efforts of IUGONET not only lead to the establishment of the research platforms to better understand global upper atmospheric phenomena, but also help to facilitate interdisciplinary researches.



Contact on this page: [iugonet2009@gmail.com](mailto:iugonet2009@gmail.com)

last update: 2014-04-01





**科学情報学研究会：2015年3月25日午前10時—午後5時**

**WDS国内シンポジウム（第5回）：2015年3月26日午前10時—午後5時**

**会場（共通）：東京理科大学森戸記念館（東京都文京区神楽坂）**

## **科学情報学研究会 2015年3月25日（水）**

- データの可視化・分野横断型利活用に向けた取り組み
- データ・パブリケーションに関する国際動向
- 大容量データ利活用システムの構築
- 国際データ関連組織への対応
- 研究データの保全と利活用

参加登録旅費申請は <http://st4a.stelab.nagoya-u.ac.jp/datascience2015/>

## **WDS国内シンポジウム（第5回） 2015年3月26日（木）**

- WDSに関わる国際動向
- WDS関連国内データ組織の活動
- WDSコミュニティの拡大
- WDSと関連国際データ組織との連携
- データ識別子システムへの参加
- その他データに関連した話題

参加登録・旅費申請は <http://st4a.stelab.nagoya-u.ac.jp/wds2015/>