Attachment(s):

(1) "MAGDAS School Report", 1.9 MB pdf, 15 pages.

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Re

: MAGDAS School Report

Dear ISWI Participant:

I attach for your inspection the official "MAGDAS School Report".

Please note that all material presented at this school is available in pdf format from the SERC website; instructions on how to access these pdf's are inside this school report.

The "Key Note" of this school is this textbook: "Selected Papers of MAGDAS". The pdf of it is big (52 MB), but if you want a copy you can download it from the SERC website ... just follow the Yellow Brick Road.

Most faithfully yours,

- : George Maeda
- The EditorISWI Newsletter



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# "ISWI / MAGDAS School on Litho-Space Weather" (formal title)

15-20 August 2011

Prof. K. Yumoto (SERC)

Prof. L.B. Kolawole (RUN)

Dr A.B. Rabiu (NASRDA)

Venue: Redeemer's University, near Lagos, Nigeria.

### Co-organizers:

Space Environment Research Center (SERC), Kyushu Univ., Japan
National Space Research and Development Agency (NASRDA), Abuja, Nigeria
Redeemer's University (RUN), Redemption City, Nigeria
African Regional Centre for Space Science and Technology Education - (ARCSSTE-E), Ile-Ife, Nigeria
Federal University of Technology, Akure, Nigeria

## SUMMARY OF THIS SCHOOL

An important agenda of ISWI is *Capacity Building* of instrument hosts in the field. This has three main components: (1) Building their ability to maintain the instrument, (2) building their ability to analyze data from their instruments, and (3) building their ability to perform research (i.e., publish papers) based on (1) and (2). Accordingly, the main goal of this ISWI/MAGDAS school was to advance *Capacity Building* within the African MAGDAS community. This goal was achieved.

The plan for this one-week summer School was to invite persons embarking on a career in space weather science. The School achieved a good mix of students – a total of 51 students. Ten came from MAGDAS host stations: (1) Addis Ababa (Ethiopia), (2) Abuja (Nigeria), (3) Aswan and Fayum (Egypt), (4) Dar Es Salaam (Tanzania), (5) Hermanus (South Africa), (6) Khartoum (Sudan), (7) Lagos (Nigeria), (8) Lusaka (Zambia), (9) Maputo (Mozambique), and (10) Nairobi (Kenya). The other students came from various parts of Nigeria. It should be pointed out that the MAGDAS station students delivered excellent oral reports on their station status.

The number of instructors was eight: (1) Prof. K. Yumoto, SERC-Japan, (2) Dr. Babatunde Rabiu, NASRDA-Nigeria, (3) Dr. Vafi Doumbia University of Cocody, Cote d'Ivoire, (4) Dr. Yoshikawa, SERC-Japan, (5) Dr. S. Abe, SERC-Japan, (6) Dr. A. Ikeda, SERC-Japan, (7) Mr. G. Maeda, SERC-Japan, and (8) Magdi, from Sudan, a Phd student under Prof. Yumoto at Kyushu University, Japan.

THE DAY-BY-DAY PROGRAM OF THIS SCHOOL CAN BE FOUND ON THE NEXT PAGE.



### ISWI / MAGDAS School on Litho-Space Weather Venue: Redeemer's University, Mowe, Near Lagos, Nigeria Dates: 15 – 20 August, 2011



# **PROGRAM**

	8:30 – 10:00	10:00- 10:30	10:30 – Noon	Noon – 1:00	1:00 - 2:30	2:30 – 3:00	3:00-5:00		
<b>Day 1:</b> Monday 15 Aug 2011	Arrival								
Day 2: Tuesday 16 Aug 2011	Opening ceremony		Introduction to MAGDAS KY		Data Analysis I Abe, Magdi		Data Analysis II (EE- index, Pc5 index) Magdi, KY		
Day 3: Wednesday 17 Aug 2011	Prnciples of geomagnetism  AY		Ionospheric currents  AY	Lunch break	Tutorials on MAGDAS data Abe, Magdi	Tea break	MAGDAS operation and maintenance (YU-8T and MAG9) AI, GM		
Day 4: Thursday 18 Aug 2011	Equatorial ionosphere ABR	Tea break	Space weather Abe, AI		Station Status reports  Rep from each station.		Lithospheric dynamics KY		
<b>Day 5:</b> Friday 19 Aug 2011	Analysis of satellite geomagnetic data	Tea	Estimation of Equatorial Electrojet from MAGDAS data / Group Research Discussion ABR		Laboratory work on Space weather Abe, AI		Laboratory work on Space weather Abe, AI;  Data citation GM		
Day 6: Saturday 20 Aug 2011	Analysis of satellite geomagnetic data II VD		Open Discussion & Closing ceremony		Excursion: Visit to places of interest in Lagos				
<b>Day 7</b> : Sunday 21 Aug 2011	Departure								

KY – Prof. K Yumoto; AY – Dr. Yoshikawa; VD – Dr. Vafi; GM – Engr. G. Maeda; AI – Dr. A. Ikeda; ABR – Dr. A. B. Rabiu; Abe – Dr Abe

# ALL TALKS CAN BE VIEWED ON THE WEB.

As can be seen from the PROGRAM (previous page), each instructor gave one or more talks during The School. Each talk included a Power Point presentation. Each presentation has been converted to pdf and can be downloaded from the Web. Here is how to do it:

Research Core (GIN)

Publication

### **Space Weather Information**

Today's Space Weather

Pc5 INDEX

EE Index

Pi2 Index (under const.)

### Data Service

MAGDAS

MAGDAS-II

**CPMN** and Others

### Misc.

**MAGDAS Newsletter** 

only member

Link

MAGDAS Session (Cairo, 2010)

MAGDAS School (Lagos, 2011)

First, go to the SERC homepage:

www.serc.kyushu-u.ac.jp (and select English version).

On the left side of it (near the bottom) you will see this green-and-yellow column.

Under "Misc.", click on "MAGDAS School (Lagos, 2011)".

You will jump to a page that gives you full access to all presentations, List of Participants, and access to "Selected Papers of MAGDAS", which was a textbook published for this school. It contains 24 MAGDAS-related papers; please see the next page to learn more about this book.

Click here to access all MAGDAS School material.

This was the 264-page textbook that was created for the MAGDAS School. It was printed up and distributed at The School. The title of the book is

# "Selected Papers of MAGDAS"

It contains 24 MAGDAS-related papers (see *Table of Contents* on the next page). This book is available to you in pdf (52 MB). Please refer to the previous page to understand how you can get this pdf copy for you and your students. This book has the strong endorsement of Prof. Hans Haubold of the United Nations Office for Outer Space Affairs (UNOOSA).



### Selected Papers of MAGDAS

for

# ISWI / MAGDAS School on Litho-Space Weather

15-20 August 2011

Venue: Redeemer's University, near Lagos, Nigeria.

### Co-organizers:

Space Environment Research Center (SERC), Kyushu Univ., Japan
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African Regional Centre for Space Science and Technology Education - (ARCSSTE-E), Ile-He, Nigeria

Federal University of Technology, Akure, Nigeria

MACDAS (MACDAS) Data Acquisition



Current global deployment of MAGDAS

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for

# Selected Papers of MAGDAS

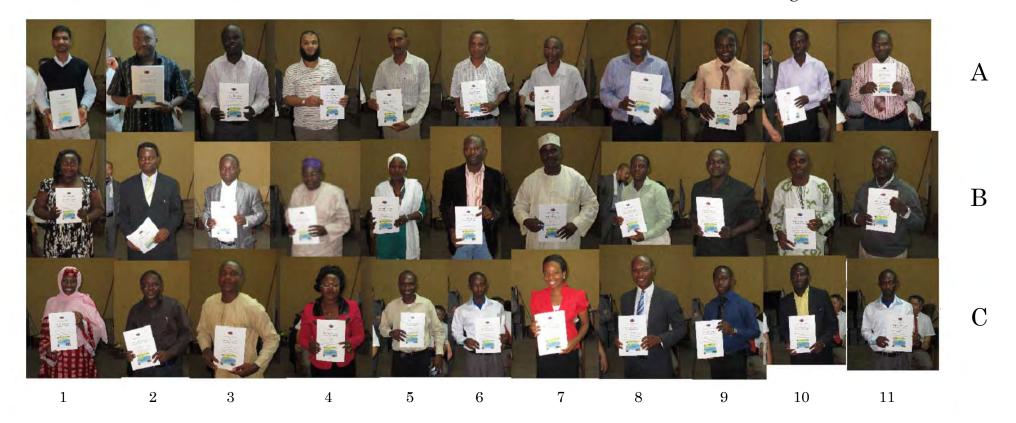
### Selected Papers of MAGDAS

<u>Vo.</u>	Title	First	Paga
1.	A Review of MAGDAS/CPMN Project during IHY	Author K Yumoto	3
2.	INTERNATIONAL HELIOPHYSICAL YEAR ACTIVITIES IN JAPAN.		13
3.	Progress Report on the Deployment of MAGDAS		23
4.	MAGDAS project and its application for space weather.		29
<del>7</del> .	Characteristics of Pi2 magnetic pulsations observed	. K. Tulloto	23
J.	at the CPMN stations: A review of the STEP results	K Vumoto	37
6.	The STEP 210 Magnetic Meridian Network Project		49
7.	A Calibration Technique for Temperature Drift	. K. Tullioto	43
۲.	of MAGDAS Magnetometer Data	.T. Uozumi	63
8.	A new index to monitor temporal and long-term		
	variations of the equatorial electrojet by		
	MAGDAS/CPMN real-time data: EE-Index	.T. Uozumi	73
9.	Low Latitude Pc 5 Index using MAGDAS/CPMN data	.A. Fujimoto	79
10.	Quantification and hemispheric asymmetry of		
	low-latitude geomagnetic disturbances caused by solar		
	wind pressure enhancements	.C S Huang	87
11.	Characteristics of counter-Sq SFE (SFE*) at		
	the dip equator CPMN stations	.Y. Yamazaki	99
12.	Horizontal amplitude and phase structure of low-		
	latitude Pc 3 pulsations around the dawn terminator	Y M Tanaka	. 105
13.	Simultaneous identification of a plasmaspheric plume		
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	Extreme Ultraviolet Imager	. S. Abe	. 115
14.	Global features of Pi 2 pulsations obtained by		
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15.	Propagation characteristics of Pi 2 pulsations		
	observed at high- and low-latitude MAGDAS/CPMN		
	stations: A statistical study	.T. Uozumi	. 131
16.	Phase relation between Pi2-associated ionospheric		
	Doppler velocity and magnetic pulsations observed		
	at a midlatitude MAGDAS station	.A. Ikeda	. 147
17.	AKR modulation and global Pi2 oscillation	.T. Uozumi	. 155
18.	Equivalent current systems for the annual and		
	semiannual Sq variations observed along the 210 MM		
	CPMN stations	Y. Yamazaki	. 171
19.	Reexamination of the Sq-EEJ relationship based on		
	extended magnetometer networks in the east Asian		
	region	.Y. Yamazaki	. 181
20.	An empirical model of the quiet daily		
	geomagnetic field variation	Y. Yamazaki	. 189
21.	Intensity variations of the equivalent Sq current		
	system along the 210-degree magnetic meridian	.Y. Yamazaki	. 209
22.	A new ULF wave analysis for Seismo-Electromagnetics		
	using CPMN/MAGDAS data	Y. Yumoto	. 217
23.	Possible association between anomalous geomagnetic		
	variations and the Molise Earthquakes at Central		
	Italy during 2002	.EMTakla	. 225
24.	Anomalous Geomagnetic Variations Possibly Linked		
	with the Taiwan Earthquake (Mw=6.4) on		
	19 December 2009	.EM Takla	. 233

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Created by G. Maeda on 25 August 2011.

# MAGDAS School Participants holding the "Selected Papers of MAGDAS" -- the textbook for this school (15-20 August 2011)



# The Convener and the Instructors of MAGDAS School (RUN, Nigeria)



Prof. L. B. Kolawole (Nigeria) The Convener.



Prof. K. Yumoto (Japan) Director of SERC and PI of MAGDAS Project.



Dr A.B. Rabiu (Nigeria) NASRDA



Prof. Vafi Doumbia (Cote d'Ivoire) Univ. of Cocody



Dr A. Yoshikawa (Japan)



Dr S. Abe (Japan)



Dr A. Ikeda (Japan)



Engr G. Maeda (USA)



Magdi (Sudan), whose Phd supervisor is Prof. K. Yumoto of Kyushu University, Japan.

I in <--- attached to SERC, Kyushu University, Japan --->



This photo taken on 16 August 2011 immediately after the Opening Ceremony.

# ISWI/MAGDAS School on Litho-Space Weather

(15-20 August 2011, Redeemer's University, near Lagos, Nigeria)



This photo taken on 20 August 2011 immediately after the Closing Ceremony.

# ISWI / MAGDAS School on Litho-Space Weather

(15-20 August 2011, Redeemer's University, near Lagos, Nigeria)

# FEEDBACK ON MAGDAS SCHOOL

Received from Prof. Vafi Doumbia (University of Cocody, Abidjan) on 8 Sept 2011: About MAGDAS school:

I am very grateful to the project PI, Professor Yumoto, and all the SERC team members who have acted to make my attendance possible. I have really appreciated and enjoyed the Lagos MAGDAS School 2011. It was very successful and, I think, most of the participants including myself have taken very large advantages to this opportunity to strengthen our knowledge in different fields. Other important advantage of this school was the human warmness, joy and gladness were clearly visible on the faces of all the participants. And finally, it offered very good opportunity of scientific collaboration. For instance, many participating students are already requesting my co-supervision of their PhD. ..... Really interesting.... Hopefully, many other future MAGDAS Schools.

Best regards, Vafi

### Received from Magdi (Sudanese Phd student under Prof. Yumoto) on 12 Sept 2011:

.... Any way that's a good example of what Dr. Vafi pointed out when he said "other important advantage of this school was the human warmness, joy and gladness were clearly visible on the faces of all the participants"; that's entirely right, among this human warmness is the serious desire of all participants to establish a human networking that is when every body contributed by giving inputs to the Bye-Laws of the Africa MAGDAS Association (AMAGDASA), which is inaugurated collectively by all participants representing Africa MAGDAS host institutions; I think this should also be included within the human

warmness which is stated by Prof. Vafi. I pray we will meet again in a similar event, and we will work for this, this time around through our association (AMAGDASA). Please let's all together keep in contact, posting our news and keep intact the human warmness we'd established.

# FEEDBACK ON The Selected Papers of MAGDAS

Just today [9 Sept. 2011] I received the Proceedings titled "Selected Papers of MAGDAS for ISWI/MAGDAS School on Litho-Space Weather, 15-20 August 2011, Redeemer's University, Lagos, Nigeria". This is an outstanding scientific publication making available a collection of papers that are related to or emanated from IHY/ISWI/MAGDAS, published in the international literature in the period of time 1996-2010 (15 years!). I would like to make the recommendation to MAGDAS to mail this Proceedings volume to each of the PIs of the 15+ ISWI instrument arrays as identified in United Nations General Assembly document A/AC.105/994 (attached). Encourage them to bring out a similar Proceedings volume.

Professor Hans J. Haubold UN Office for Outer Space Affairs Vienna International Centre P.O. Box 500, A-1400 Vienna, Austria

# List of Participants for MAGDAS School (15–20 August 2011)

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40	Nigeria		Ayorinde, Toyese Tunde	М	Federal University of Technology, Akure	
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42	Japan	Yes	Engr. Maeda Joji	М	SERC, Kyushu University, Japan	
43	Japan	Yes	Dr. Abe Shuji	М	SERC, Kyushu University, Japan	
44	Japan	Yes	Dr. Ikeda Akihiro	М	SERC, Kyushu University, Japan	
45	Sudan	Yes	Yousif suliman Magdi Elfadil	М	SERC, Kyushu University, Japan	
46	Japan	Yes	Dr A. Yoshikawa	М	SERC, Kyushu University, Japan	
47	Cote d'Ivore	Yes	Prof. Vafi Doumbia	М	University di Cocody, Abidjan, Cote divore	
48	Nigeria	Yes	Dr. Babatunde Rabiu	М	National Space Research & Development Agency, Abuja	tunderabiu@yahoo.com
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54	Nigeria		Izang Patrick A.	М	ARCSSTEE, Ile-Ife	
	Nigeria		Agoyi, Adedeji	М	Federal University of Technology, Akure	
56	Nigeria		Adesiji N. E.	F	Redeemer's University, Redemption City, Mowe	
57	Nigeria		Hammed Adeniyi Lawal	М	Olabisi Onabanjo University, Ago-lwoye	
58	Nigeria		Ayanda, Jacob Dele	М	Tai-Solarin University of Education, Ijagun, Ogun State	
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Note:

SERC = Space Environment Research Center (Director is Prof. K. Yumoto)

ARCSSTEE = African Regional Center for Space Science Technology Education English.

NASRDA = National Space Research and Development Agency.

# END OF MAGDAS SCHOOL REPORT (created in September of 2011).



This pdf was circulated in: Volume 3, Number 82, on 13 Sept. 2011.