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# A Short Report

## Major Upgrade of the MAGDAS Equatorial Chain in Africa – March 2010 and August 2010.

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Fukuoka, Japan.

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九州大学

During the past five years, the magnetometer array of the MAGDAS Project (PI : Prof. K. Yumoto, SERC, *Kyushu University*, Japan) has emerged to become the largest real time magnetometer array in the world, with 53 units now operating along three chains: Dip Equator Chain, 210 MM Chain, and 96 MM Chain. The first African equatorial units were installed in Year 2006 at Abidjan, Ilorin, and Addis Ababa using MAGDAS I units. Another African equatorial unit (MAGDAS II) was installed in Lagos in 2008.

Recently, SERC took delivery of fifty state-of-the-art magnetometers that we

call “MAGDAS 9” (but they still need to be calibrated at Kakioka Magnetic Observatory of Japan). This summer, Prof. Yumoto undertook the decision to fully upgrade the African equatorial stations to this new high-caliber model. Actually, in March of this year, the MAGDAS at equatorial Ilorin was replaced by a MAGDAS-9 prototype and is generating excellent data right now. The primary host of the Ilorin station is Dr Adimula; he is in Photo A (attached to this report). For more details on Ilorin, please see *ISWI Newsletter* Volume 2, Number 32.

To move on: this summer (6 through 21, August, 2010) a team from SERC (myself and two Kyushu University graduate students, Miss Sakai 坂井 and Miss Eto 衛藤) visited four sites (shown in italics below) and performed the following work.

### MAGDAS Equatorial Upgrade Work of August 2010.

#### ***ABJ*** (*Abidjan, Cote d'Ivoire*)

Located on the campus of *University de Cocody*. Host is Prof. Vafi (see Photo B) and co-host is Dr Obrou. Magnetometer here was upgraded to MAGDAS 9.

#### ***LAG*** (*Lagos, Nigeria*)

Located on the campus of *Redeemer's University (RUN)*. Host is Prof. Kolawole (see Photo C) and his primary assistant is Mr Osino (also in Photo C). Magnetometer here was upgraded to MAGDAS 9.

#### ***ABU*** (*Abuja, Nigeria*)

Located on the property of Nigeria's space agency (*National Space Research and Dev. Agency*, or NASRDA). Primary contact person is Dr Hamisu Mai-Unguwa (see Photo D). This was a completely new installation; MAGDAS 9 was installed here. We thank NASRDA for building the sensor house before we arrived at this site and for their fantastic hospitality..

#### ***AAB*** (*Addis Ababa, Ethiopia*)

Located on the campus of *Addis Ababa University*. Host is Dr Gizaw Mengistu (see Photo E), who is a member of the faculty at this university. Magnetometer here was upgraded to MAGDAS 9.

In conclusion, on behalf of Prof. Yumoto (PI of the MAGDAS Project), I wish to thank all the persons mentioned in this report for their tremendous support for this upgrade (or new installation) work. Without their generous support, all this work would have been impossible.

In preparing for this equatorial upgrade mission, it is also necessary to acknowledge the considerable technical assistance of Dr S. Abe, Dr A. Ikeda, and Dr T. Uozumi --- all staff members of SERC. The Equatorial Team (赤道隊) of Maeda/Sakai/Eto thanks them for their great support before and during the mission.

*End of Report*

(but there are five photos attached,  
Photo A through Photo E ).

Dr Adimula  
(Head of Physics Dept)

Dr Rabi  
(MAGDAS Africa Coordinator)

 **IHY PROJECT  
MAGDAS**  
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George Maeda  
Kyushu Univ.

Photo A  
(Ilorin)

27. Mar. 2010

Main Gate of Ilorin  
MAGDAS Observatory

Photo B  
(Abidjan)



Botanic Garden  
of this university

Dr Vafi Doumbia  
Laboratoire de Physique de l'Atmosphère  
Université de Cocody, Abidjan.  
August 2010

Photo C  
(Lagos)

MAGDAS OBSERVATORY

Dr L. B. Kolawole  
Head,  
Department of Physical Sciences.  
Redeemer's University, Nigeria.



Mr Osino

2010.08.14

A photograph of two men in traditional blue attire. The man on the left is wearing a blue patterned cap and a blue patterned jacket over a blue shirt. The man on the right is wearing a blue patterned cap and a light blue patterned shirt. They are both looking towards the right. The background is a plain, light-colored wall.

Photo D  
(Abuja)

Dr S. O. Mohammed  
Director General of NASRDA

Dr Hamisu Mai-Unguwa  
Chief Scientific Officer.

2010.08.16

Photo E  
(Addis Ababa,  
Ethiopia.)

Miss Mina SAKAI  
Kyushu University, Japan

Miss Naho ETO  
Kyushu University, Japan

Dr Gizaw Mengistu  
Physics Department  
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2010.08.20

