N° 65 JUNE 2021

IGRGEA LETTER

International Geophysical Research Group /Europe-Africa
International Geophysical Research Group /Europe-Asia

IGRGEA

At the end of the IEEY (International Equatorial Electrojet Year), in 1995, IGRGEA (International Geophysical Research Group Europe Africa) has been organized to follow the research work initiated during IEEY, in 1992. Since January 2003 IGRGEA has been established at the Institute of Geophysics in Hanoï, Vietnam.

The last letter, No. 64, dated November 2020.

BURKINA FASO

Mr. Moustapha KONATE defended his thesis on August 26, 2020 at Norbert ZONGO University on the theme: "*Variability of NmF2 during magnetic quiet days during maximum and minimum phases of the sunspot cycle 22 at the Ouagadougou station*".

From right to left Dr (Senior Researcher) Emmanuel NANEMA (Thesis Director), Dr (Senior Lecturer) Bétaboalé NAON (examiner), Prof. Frédéric OUATTARA (President of the Jury), Prof. David Y. K. TOGUYENI (referee).

Mr. Abdoul Kader SEGDA defended his thesis on January 19, 2021 at the Norbert ZONGO University in Koudougou on the topic: "*Modeling of the variability of the critical frequencies foF2 during the shock activities for the sunspot cycles 21 and 22 . Assessment of the predictive values of URSI and CCIR of IRI-2012 on in situ measurements of the ionosonde station at Ouagadougou* ".

From left to right Dr (Senior Researcher) Emmanuel NANEMA (referee), Dr (Senior Lecturer) Jean-Louis ZERBO (examiner), Prof. Saïdou MADOUGOU (President of the Jury), Prof. Frédéric OUATTARA (Thesis Director), Dr (Associate Professor) Bétaboalé NAON (referee),

On December 22, 2020, Prof. Frédéric OUATTARA was elected academician of Burkina Faso.

PRESIDENCE DU FASO

ACADEMIE NATIONALE DES SCIENCES, DES ARTS ET DES LETTRES DU BURKINA FASO (ANSAL-BF)

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Doctor M'bi KABORE, from the Nazi BONI University of Bobo Dioulasso defended his thesis on June 04, 2021 at the Norbert ZONGO University in Koudougou on the topic: " *: "Variability of the critical frequency foF2 between the sectors Africa-Asia, Africa - America in the equatorial zone and between the Africa-Europe sectors during geomagnetic quiet periods for sunspot cycles 20 and 21 ".*

From left to right Dr (Senior Researcher) Emmanuel NANEMA (referee), Dr (Senior Lecturer) Jean-Louis ZERBO (examiner), Prof. Saïdou MADOUGOU (President of the Jury), Prof. Frédéric OUATTARA (Thesis Director), Dr (Associate Professor) Bétaboalé NAON (referee)

Mr. Sibri Alphonse SANDWIDI defended his thesis at Norbert ZONGO University on June 05, 2021 in Koudougou on the theme: "*Variability of foF2 during disturbed geomagnetic activities at the Dakar station during solar cycles 21-22*".

From left to right Dr (Senior Researcher) Emmanuel NANEMA (referee), Dr (Senior Lecturer) Jean-Louis ZERBO (Examiner), Pr Saïdou MADOUGOU (President and referee), Bernard SANDWIDI (brother of the applicant), Pr Frédéric OUATTARA (Thesis Director), Dr (Senior Lecturer) Bétaboalé NAON (referee).

CÔTE D'IVOIRE

On January 23, 2021, **Dr. Josée N'gbesso YAO** successfully defended her doctorate in physics at the University Félix Houphouët Boigny (UFHB), Abidjan, Côte d'Ivoire under the supervision of Professor Olivier OBROU and Dr. Bruno NAVA of T / ICT4D Lab, ICTP, Italy.

Her subject was on: "*Evaluation of the NeQuick 2 model in the equatorial region of West Africa using GNSS data*".

The jury was composed :

Chairman: M. KOBEA Toka Arsène, Research Director, Félix Houphouët-Boigny University (Abidjan)

Director: M. OBROU Kouadio Olivier, Associate Professor, Félix Houphouët-Boigny University (Abidjan)

Referee: Mr. ZOUEU Thouakesseh Jérémie, Full Professor, Institut National Polytechnique Félix Houphouët-Boigny (Yamoussoukro)

Referee : M. ADOHI Bibi Jean Pierre, Full Professor, Félix Houphouët-Boigny University (Abidjan)

Examiner: M. DOUMBIA Vafi, Associate Professor, Félix Houphouët-Boigny University (Abidjan).

GIRGEA school in October 2022 in Abidjan

SUMMER SPACE WEATHER SCHOOL
Physics and use of tools
17-28 October 2022
Houphouët Boigny University, Abidjan, Côte d'Ivoire

2022

- ✓ Centenary of the discovery of the Equatorial Electrojet
- ✓ Thirty years of the International Year of the Equatorial Electrojet

Ivorian Association of Astronomy

Ivorian Association of Astronomy born on February 13, 2021. The Ivorian Association of Astronomy is the first ivoirian association to popularize astronomy to the general public. The idea of creating the Ivorian Association of Astronomy proper emerged after the visit in February 2019 of Mr. David BARATOUX, astronomer and planetologist at the Institute for Research for Development (IRD). During his stay in Abidjan, David gave a conference at the Laboratory of Physics of Atmosphere (LAPA), in which he presented the need for our country to set up an association whose final goal would be the construction of an astronomical observatory in Côte d'Ivoire via the RISE 5A project.

AZIZ Diaby (President of the AIA) and his friends, teachers in local high schools, have noted the growing disinterest of young people in science subjects, not only in high school but also afterwards. As a result, they themselves decided to make young people want to go into the fields. Also, some pupils and students would like to orient themselves in the studies of space, but have given up for lack of information and models. This is how the desire for the creation of an association grew stronger. At the initiative of AZIZ Diaby who first decides to create a Facebook page to share basic knowledge on astronomy and space meteorology for the general public.

Later, AZIZ Diaby, NGUESSAN Kouassi, TUO Zié and ACKAH Jean-Baptiste decided to create the association. The primary objective of the association is to inspire young people and especially women to orient themselves more towards scientific disciplines, through fun and educational activities during scientific events and star gazing. Teaching astronomy is a powerful tool to educate pupils and students (and even the general public) about the place of our planet and ourselves in the universe, as well as a gateway to STEM subjects (science, technology, engineering, mathematics). The team is made up of students, teacher-researchers who wish to reconcile Ivorians to science and above all to contribute to the development of the country.

EGYPT

Dr Ola AHMED MUSTAFA ABU ELEZZ successfully defended her PhD in Physics at Helwan University / Egypt on October 11, 2020.
Her subject was on: "*Nowcasting and Modeling of the Ionosphere over Africa*"

This thesis has been approved for submission by the thesis directors:
Ayman MAHROUS: Professor, Department of Physics, Faculty of Sciences, University of Helwan, Egypt
Pierre CILLIERS: Professor of Space Sciences South African National Space Agency (SANSA) Hermanus, South Africa.
Muhammed YOUSEF: Associate Professor, Department of Physics, Faculty of Sciences, University of Helwan, Egypt
Rolland FLEURY: Professor, Micro-Ondes Télécom Bretagne department, Brest, France.

Jury Members
Professor Mohamed SALAH EL NAWAWY, Department of Astronomy, Faculty of Sciences, University of Cairo, Egypt. Professor Makram Ibrahim KHALIL, Director of the Sun and Space Research Laboratory, NRIAG, Cairo, Egypt.
Associate Professor Muhammed YOUSEF, Department of Physics, Faculty of Sciences, University of Helwan, Egypt.

Dr Safinaz AHMED ABD ELRAHMAN KHALED successfully defended her doctorate in physics on June 12, 2021.

Her subject was: "*Lyman Alpha and H Solar Activity Monitoring from Satellites and Ground Stations: Space Weather Prediction and Application*"

This thesis has been approved for submission by the thesis directors:
Magdy YOUSEF AMIN: Professor in the Department of Astronomy, Space Sciences and Meteorology, Faculty of Sciences Cairo University, Cairo, Egypt Shahinaz YOUSEF: Professor in the Department of Astronomy, Space Sciences and Meteorology, Faculty of Sciences Cairo University, Cairo, Egypt Ahmed GHITAS: Professor in the Sun and Space Research Department, NRIAG, Helwan, Cairo, Egypt Luc DAME: Professor at the Atmospheres, Environments, Space Observations Laboratory (LATMOS), Guyancourt, France.

Jury members
Prof / Dr. Carsten DENKER, Director, Solar Physics, Leibniz-Institut d'Astrophysique Potsdam ((AIP, Germany)
Prof / Dr. Magdy YOUSEF AMIN, Department of Astronomy, Space Sciences and Meteorology, Faculty of Sciences, University of Cairo, Egypt. Dr Christine AMORY-MAZAUDIER, LPP, Polytechnique, Sorbonne Universités, France.

SENEGAL

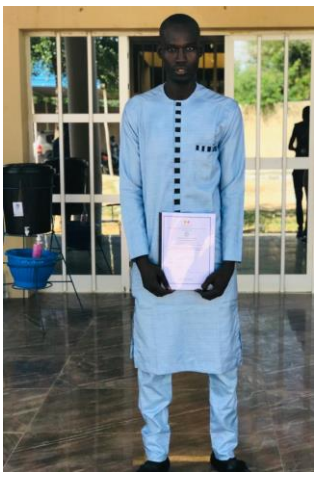
Following the Space Weather School which took place at the University of Thiès in October 2019, a research project was initiated.

Title: Research capacity building project of the University of Thiès in Space Sciences and Meteorology.
This project is led locally by: Dr Idrissa GAYE, Prof Cheikh SARR and Prof Mouhamadou THIAM
Foreign co-supervisors participate in this project: Christine Amory-Mazaudier, Laboratory of Plasma Physics, Polytechnic, Sorbonne Universities, France Rolland Fleury, Lab-STICC, UMR 6285, Institut Mines-Telecom Atlantique, Brest site, France Franck Grodgi, Houphoüet Boigny University, Côte d'Ivoire.
Claudia Paparini, Consultant at the European GNSS Agency, Noordwijk site, The Netherlands
Serge Soula, Aerology laboratory, University of Toulouse, France

Three students will be trained for a doctorate:
Herbert NGAYA
Subject: Study on the validity of ionospheric TEC measurements transmitted in EGNOS messages against global GIM (Global Ionospheric Model ') maps

Amath NDAO
Subject: Climatology of plasma irregularities in Dakar: study using the ROTI index and variations in the Earth's magnetic field.

Pauline Sanou FAYE
Subject: Contribution of space observation for the characterization of storm systems on the African continent.



Amath NDAO

Pauline Sanou FAYE

SITE INTERNET www.girgea.org

On the site www.girgea.org, you can find all the letters of GIRGEA sent since May 1992.
You can also download all of Rolland FLEURY's programs for processing GPS data as well as some ionoprobesonde data. To download the programs you need a password that Rolland will give you.
Rolland's mails:
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rolland.fleury@imt-atlantique.fr

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