



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 Hanoi, Vietnam.

The last letter, No. 60, dated June 2018.

BURKINA FASO

GUIBULA Karim defended his thesis on July 3, 2019, at Norbert ZONGO University, Burkina Faso, on the theme: *“IRI-2012 modeling of the foF2 variability during geomagnetic activities at the Korhogo station from 1992 to 2002”*

Jury :

President : SEGDA Bila Gérard, Professor CAMES, Joseph Ki ZERBO University , Burkina Faso

Members :

MADOUYOU, Professor CAMES, Abdou MOUMOUNI University, Niger

OBROU Kouadio Olivier, Lecturer CAMES, Félix Houphouët BOIGNY University , Côte D'Ivoire

NANEMA Emmanuel, Lecturer CAMES, CNRST, Burkina Faso

OUATTARA Frédéric, Professor CAMES, Norbert ZONGO University , Burkina Faso, **Supervisor**

Photo of the PhD GUIBULA Karim



DIABATE Abidina defended his thesis on July 4th, 2019, at Norbert University ZONGO, Burkina Faso on the theme: *“Modeling by IRI-2012 of the variability of foF2*

during fluctuating activities at Ouagadougou station during solar cycles 21- 22.”

Jury :

President : MADOUYOU, Professor CAMES, Abdou MOUMOUNI University, Niger

Members :

OBROU Kouadio Olivier, Lecturer CAMES, Félix Houphouët BOIGNY University , Côte D'Ivoire

NANEMA Emmanuel, Lecturer CAMES, CNRST, Burkina Faso

ZERBO Jean-Louis, Lecturer at Bobo Dioulasso University, Burkina Faso

OUATTARA Frédéric, Professor CAMES, Norbert ZONGO University, Burkina Faso, **Supervisor**

In the photo, below, two members of the Jury O. Obrou and J-L Zerbo were absent.



Photo of the PhD of DIABATE Abidina

SAWADOGO Wambi Emmanuel defended his thesis on July 4, 2019, at Norbert University ZONGO, Burkina Faso on the theme: *Modeling by IRI-2012 of the variability of foF2 during recurrent activities at the Ouagadougou station during solar cycles 21 -22*

Jury

President : MADOUYOU, Professor CAMES, Abdou MOUMOUNI University, Niger

Members:

OBROU Kouadio Olivier, Lecturer CAMES, Félix Houphouët BOIGNY University , Côte D'Ivoire

NANEMA Emmanuel, Lecturer CAMES, CNRST, Burkina Faso

ZERBO Jean-Louis, Lecturer at Bobo Dioulasso University, Burkina Faso.



OUATTARA Frédéric, Professor CAMES, Norbert ZONGO University, Burkina Faso, **Supervisor**

In the photo, below, two members of the Jury O. Obrou and J-L Zerbo were absent.



Photo of the PhD of SAWADOGO Wambi Emmanuel

Frédéric OUATTARA, winner of the AGU prize, the best African scientist in Space Science for the year 2018, was nominated President of his University Norbert ZONGO on May 22, 2019. He was received by the President of the Republic of Burkina Faso, see the photo below.



Professor Frédéric Ouattara accompanied by the Minister of Higher Education for the presentation of his prize to the President of the Republic, HE Mr. Rock Marc Christian KABORE

COTE D'IVOIRE

COULIBALY Soro Ibrahim defended his thesis on February 6th 2019, at Houphouët Boigny University, Abidjan, Ivory Coast, on the theme: « **Study of disturbances of the F-layer of the equatorial ionosphere at night during a magnetic storm** »

Jury :

President : Arsène KOBÉA, Professor CAMES, Houphouët Boigny University, Abidjan, Côte d'Ivoire (C-I)

Members :

OBROU Olivier Kouadio, Lecturer CAMES, Félix Houphouët BOIGNY University, C-I

ADOHI Jean-Pierre, Lecturer CAMES, Félix Houphouët BOIGNY University, C-I, **Supervisor**

DOUMBIA Vafi, Lecturer CAMES, Félix Houphouët BOIGNY University, C-I

AMORY-MAZAUDIER Christine, Senior Scientist Sorbonne University was absent.



Photo of the PhD of COULIBAY Soro Ibrahim

ACKAH Jean defended his thesis on January 25, 2019 at the Houphouët Boigny University, Abidjan Ivory Coast, on the theme: « **Study of the total electron content and ionospheric scintillations above Abidjan During the solar minimum and the solar periods flares** »

Jury :

President : Arsène KOBÉA, Professor CAMES, Houphouët Boigny University, Abidjan, Côte d'Ivoire (C-I)

Members :

OUATTARA Frédéric, Professor CAMES, Norbert ZONGO University, Burkina Faso

OBROU Olivier Kouadio, Lecturer CAMES, Félix Houphouët BOIGNY University, C-I, **Supervisor**

DOUMBIA Vafi, Lecturer CAMES, Félix Houphouët BOIGNY University, C-I

ADOHI Jean-Pierre, Lecturer CAMES, Félix Houphouët BOIGNY University, C-I



Photo of the PhD of Jean Ackah



NIGERIA

AMAECHE Paul defended his thesis on February 27, 2019 at the University: Lagos, Akoka, Yaba, Lagos, Nigeria, on the theme: *“Characterization of Irregularities of the Ionosphere above the Equatorial Ionization Anomaly, in Africa from 2010 to 2016”*

President : Professor Abdulahi N. Njah, Chief of the Department of Physics, University of Lagos, Lagos, Nigeria.

Members :

Professor Emmanuel O. Somoye. Department of Physics, State University of Lagos, Ojo, Lagos State, Nigeria. Membre du jury externe.

Dr. Olusunkanmi I. Olusola (Associate Professor), Department of Physics University of Lagos, Lagos, Nigeria. Internal Member of the Jury

Dr. Vitalis C. Ozebo (Associate Professor) Department of Physics University of Lagos, Lagos, Nigeria. Internal Member of the Jury

Dr. Peter O. Oluseyi (Senior Lecturer), Department of Electrical and Electronic Engineering. University of Lagos, Lagos, Nigeria, Representative of the postgraduate school.

Professor Elijah O. Oyeyemi. Department of Physics, University of Lagos, Lagos, Nigeria. Supervisor

Dr. Andrew O. Akala (Senior lecturer). Department of Physics, University of Lagos, Lagos, Nigeria. **Supervisor**

In the photo below, the supervisor Andrew Akala was absent.



Photo of the PhD of Paul Amaechi

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CYPRUS

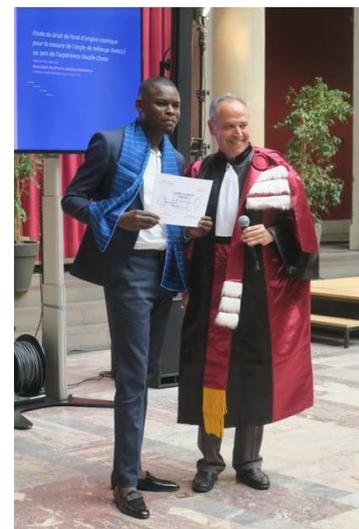
An IRI workshop was organized from 9 to 13 September in Cyprus by Dieter BILITZA and Haris HARALAMBOUS. Readings are available at the following web address : <http://iri2019.frederick.ac.cy/program-iri-workshop>

NEPAL

A workshop on Space Weather has been organized by ICTP in Nepal from 23 to 27 September for Nepalese students. At the origin of this project Professor Sandro RADICELLA and Professor Narayan CHAPAGAIN. The brochure for this workshop is available on the link: <https://docs.google.com/forms/d/1GJoQtIBCUIyqJze8dlc0myM323QiPaEJOUT2APUFFLJA/>

DRC-France

The University of Strasbourg has organized a graduation ceremony of Doctorate on Friday, June 21, 2019 at the University Palace of Strasbourg. The President of the University and the Vice-President in charge of Research and Doctoral training awarded the 462 Doctors 2018 their diploma in the presence of the directors of the Doctoral Schools and the patron of the promotion, Jules Hoffmann - Nobel Prize in Medicine 2011. All the doctors in this class received this blue stole.



Dr Kenny KALE and the Professorr Aziz DINIA



SENEGAL

The 4th edition of the School of Space Weather (IMAO 2019) will take place at the University of Thiès in Senegal from October 15 to 25, 2019.

This school is organized by the UFR - SET / University of Thiès / Laboratory LapTPAD in collaboration with CRASTE-LF and Le GIRGEA, with the support of ISWI (International Space Weather Initiative), and under the patronage of the Ministry of the Education, Research and Innovation of Senegal.



Idrissa Gaye ,
Lecturer at the Thiès University

Participating student countries (12): Algeria, Burkina Faso, Cameroon, Côte d'Ivoire, France, Guinea Conakry, Morocco, Nigeria, RC, DRC, Rwanda, Senegal. Country of teachers (7): Algeria, Burkina Faso, Ivory Coast, France, Morocco, USA, Senegal.

ATELIER ISWI Trieste Mai

The readings made during the ISWI workshop, which took place at the ICTP in Trieste from 20 to 24 May, are available on the website:

<http://indico.ictp.it/event/8682/other-view?view=ictp timetable> .

PAPERS

Abedesin B.O., A.B. Rabiou, O.S. Bolaji, J.O. Adeniyi, C. Amory-Mazaudier , Ionospheric climatology at Africa EIA trough stations during descending phase of sunspot cycle 22, *Journal of Solar and Terr. Atmosp. Research*, DOI: 10.1016/j.jastp.2018.03.009, 172, pp 83-99, 2018.

Ahoua, S., John Bosco Habarulema, Olivier K. Obrou, Pierre J. Cilliers, and Zacharie K. Zaka, Evaluation of the NeQuick model performance under different geomagnetic conditions over South Africa during the ascending phase of the solar cycle (2009-2012), *Ann. Geophys.*, 36, [1161-1170](https://doi.org/10.1007/s00585-018-1170-1)

Ali, M.N., Ouattara, F., Zerbo, J.L., Gyébré, A.M.F., Nanéma, E., Zougmore, F., (2018). Statistical Study of foF2 Diurnal Variation at Dakar Station from 1971 to 1996: Effect of Geomagnetic Classes of Activity on Seasonal Variation at Solar Minimum and Maximum. *International Journal of Geosciences*, 6, 201-208. <http://dx.doi.org/10.4236/ijg.2015.63014>

Coulibaly I.S., B.J.P. Adohi, K.S. Tanoh, September 22–26, 1999 at equatorial station in west Africa, *Journal of Solar and Terr. Atmosp. Research* , <https://doi.org/10.1016/j.jastp.2018.02.013>, pp 1-8, 2018.

Diabaté, A., Ouattara, F. and Zerbo, J.L. (2018) Annual and Diurnal Variabilities in the Critical Frequency (foF2) during Geomagnetic Fluctuating Activity over Solar Cycles 21 and 22 at Ouagadougou. *Atmospheric and Climate Sciences*, 8, 435-445. <https://doi.org/10.4236/acs.2018.84029>

Favà, V., Curto, J.J. Llasat, M.C, Changes in summer pressure patterns across the late 1960s and their influence on temperature trends on the eastern coast of the Iberian Peninsula, *Atmosphere*, 9, 42; doi:10.3390/atmos9020042, 2018.

Curto, J.J. Marsal, S., Blanch, E., Altadill, D., Analysis of the solar flare effects of 6 September 2017 in the ionosphere and in the Earth's magnetic field using Spherical Elementary Current Systems, *Space Weather*, doi: 10.1029/2018SW001927, 2018.

Favà, V., Curto, J.J. Llasat, M.C., Changes in summer temperatures and rainfall in the north-eastern Iberian Peninsula in the late 1960s and the weakening of the Iberian thermal low, *Meteorology and Atmospheric Physics*, doi: 10.1007/s00703-018-0643-0, 2018.

Guibula, K., Ouattara, F. and Gnabahou, D.A. (2018) foF2 Seasonal Asymmetry Time Variation at Korhogo Station from 1992 to 2002. *International Journal of Geosciences*, 9, 207-213. <https://doi.org/10.4236/ijg.2018.94013>

Gyébré, A.M.F., Gnabahou, D.A. and Ouattara, F. (2018). The geomagnetic Effects of Solar Activity as Measured at Ouagadougou Station. *International Journal of Astronomy and Astrophysics*, 8, 178-190. <https://doi.org/10.4236/ijaa.2018.82013>

Kabore, S. and Ouattara, F. (2018) Magnetosphere convection electric field (MCEF) time variation from 1964 to 2009: Investigation on the signatures of the geoeffectiveness coronal mass ejections. *International Journal of Physical Sciences*, 13(20) 273-281. <http://www.academicjournals.org/IJPS>

Karim, G., F. Ouattara, A.G. Doua, foF2 Asymmetry time variation at Kohorogo station from 1992 to 2002, *International Journal of Geosciences*, 9, pp 207-213, DOI:10.4236/ijg.2018.94013, <http://www.scirp.org/journal/ijg>, 2018

Kashcheyev, A., Y. Migoya-Oroué, C. Amory-Mazaudier, R. Fleury, B. Nava, K. Alazo-Cuartas and S.M. Radicella- "Multi-variable comprehensive analysis of two great geomagnetic storms of 2015", 123, <https://doi.org/10.1029/2017JA024900>

Kigotsi J. K., Soula S., Georgis J.-F., Comparison of lightning activity in the two most active areas of the Congo Basin, accepted in *_Nat. Hazards Earth Syst. Sci.* 18, 479–489, 2018, <https://doi.org/10.5194/nhess-18-479-2018>



Jouan, T., Bouziani, M., Azzouzi, R., Amory-Mazaudier, C., Study of ionospheric variability using GNSS observations, accepted for publication, <http://www.scirp.org/journal/pos>

Malki Khalifa, Aziza Bounhir, Zouhair Benkhaldoun, Jonathan J. Makela, Nicole Vilmer, Daniel J. Fisher, Mohamed Kaab, Khaoula Elbouyahyaoui, Brian J. Harding, Amine Laghriyeb, Ahmed Daassou, and Mohamed Lazrek, 2018, Ionospheric and thermospheric response to the 27–28 February 2014 geomagnetic storm over north Africa, *Ann. Geophys.*, 36, 987–998, <https://doi.org/10.5194/angeo-36-987-2018>

Nanéma, E., Konate, M., Gnahahou, D.A. and Ouattara, F. (2018). Effects of Height of F2-Layer on Critical Frequency by Use of Data at Ouagadougou Station. *Canadian Center of Science and Education*, 10, 178-190. <https://doi.org/10.5539/apr.v10n5p57>

Nanéma, E., Gnahahou, D.A., Zoundi, C and Ouattara, F. (2018). Modeling the Ionosphere during Quiet Time Variation at Ouagadougou in West Africa. *International Journal of Astronomy and Astrophysics*, 8, 163-170. <https://doi.org/10.4236/ijaa.2018.82011>

Nanéma, E., Ouedraogo, I., Zoundi, C and Ouattara, F. (2018). Electron Bulk Surface Density Effect on Critical Frequency in the F2-Layer. *International Journal of Geosciences*, 9, 572-578. <https://doi.org/10.4236/ijg.2018.99033>

Okoh Daniel, Sylvester Onwuneme, Gopi Seemala, Shuanggen Jin, Babatunde Rabi, Bruno Nava, Jean Uwamahoro, Assessment of the NeQuick-2 and IRI-Plas 2017 models using global and long-term GNSS measurements, *Journal of Atmospheric and Solar-Terrestrial Physics* 170 (2018) 1–10

Okoh, D. I., G. K. Seemala, A. B. Rabi, J. Uwamahoro, J. B. Habarulema, and M. Aggarwal, A Hybrid Regression-Neural Network (HR-NN) Method for Forecasting the Solar Activity, *Space Weather*, 16. <https://doi.org/10.1029/2018SW001907>

Yao, J.N., B. Nava, O.K. Obrou, S.M. Radicella, Validation of the NeQuick 2 model over West African equatorial region using GNSS-derived Total Electron Content data, *Journal of Solar and Terr. Atmosp. Research*, , <https://doi.org/10.1016/j.jastp.2018.10.001>, 181, p 1-9, 2018.