



# **UNIVERSITY OF BEIRA INTERIOR**

**Covilha | Portugal**

## **DATA QUALITY ASSESSMENT OF NIGNET NETWORK**

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## **Dedication**

This project is dedicated to my beloved family for all their support, love, caring and cooperation accorded to me during the course of the program and also to my beloved parents for their Parental Care and Patient.

I pray Almighty “**ALLAH**” rewards them abundantly (Ameen).



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## **Abstract**

NIGNET is a network of Continuously Operating Reference Stations (CORS) of GNSS (Global Navigation Satellite Systems) stations established in 2009 by the Federal Government of Nigeria through the Office of the Surveyor General of the Federation (OSGoF), which is the office charged with the Surveying and Mapping in Nigeria. Presently, the network consists of twelve (12) stations established with a good geographic distribution.

The principal objective of this research project is to assess the data quality of NIGNET Network by processing the data and analysing the derived Time Series. This was done by evaluating the errors on the Time-Series and by computing the relative motions, using different plate tectonic models with respect to (w.r.t.) Nubia plate.

### **Keywords:**

GPS; Time Series; Errors, Models.



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# Acronyms

<b>ABUZ</b>	Ahmadu Bello University Zaria
<b>AFREF</b>	African Reference Frame
<b>BKFP</b>	Birnin Kebbi Federal Polytechnic
<b>CGGT</b>	Centre for Geodesy and Geodynamics Toro
<b>CLBR</b>	Calabar
<b>CODIST</b>	Committee on Development Information Science and Technology
<b>CORS</b>	Continuously Operating Reference System
<b>CPU</b>	Central Processing Unit
<b>DEOS</b>	Department of Earth Observation and Space System
<b>FN</b>	Fiducial Network
<b>FUTY</b>	Federal University of Technology Yola
<b>GEODVEL</b>	GEODESyVELOCITY
<b>GPS</b>	Global Positioning System
<b>GSM</b>	Global System for Mobile Communication
<b>IGS</b>	International GNSS Service
<b>ITRS</b>	International Terrestrial Reference Frame
<b>JPL</b>	Jet Propulsion Laboratory
<b>MDGR</b>	Maiduguri
<b>MGC</b>	Migmatite Gniess Complex
<b>MORVEL</b>	Mid Ocean RidgeVELOCITY
<b>NASA</b>	National Aeronautics and Space Administration
<b>NIGNET</b>	Nigeria Network
<b>NUVEL</b>	Northwest UniversityVELOCITY

<b>OSGOF</b>	Office of the Surveyor General of the Federation
<b>PPP</b>	Precise Point Positioning
<b>RUST</b>	River State University of Science and Technology
<b>ULAG</b>	University of Lagos
<b>UNAVCO</b>	University NavStar Consortium
<b>USB</b>	Universal Serial Bus
<b>UNECA</b>	United Nations Economic Commission of Africa



