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POSITIONING COMPARISON BETWEEN SATELLITE BASED AUGMENTATION SYSTEM (SBAS) AND AUTONOMOUS SOLUTION GNSS USING STATIC METHOD

MUHAMMAD HAFFIS BIN NASIR

2015495954

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AUTHOR'S DECLARATION

I declare that the work on this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Undergraduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

Name of Student	:	Muhammad Haffis Bin Nasir
Student I.D. No.	:	2015495954
Programme	:	Bachelor of Surveying Science & Geomatics (Hons) – AP220
Faculty	:	Architecture, Planning and Surveying
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Signature of Student	:	…….
Date	:	June 2019

ABSTRACT

Positioning is the greater role when determining the accurate and precision of the position of target in offshore survey. In this study, Satellite Based Augmentation System (SBAS) is one of the type DGNSS of wide area that has been use. SBAS was being developed worldwide for their unique advantage of wide range coverage to be used as a wide range differential GPS (WADGPS) technique to improve the accuracy of GNSS observations in a wide range of spaces. SBAS may be more appropriate to improve position accuracy. SBAS systems are geosynchronous satellite systems offering services to improve the accuracy, integrity and availability of basic GNSS signals. So that this study is about to determine the best accuracy in positioning which is using Satellite Based Augmentation System (SBAS) and Autonomous GNSS Solution in hydrographic positioning by referring IHO classification. While Autonomous was use in this research is because of to determine that the data that have been given by autonomous can be use or not if the connection of differential lost. This is because when the connection lost, automatically autonomous will be gained to collect the data. This study has three objectives which is to determine the continuity of data given by Satellite based augmentation system (SBAS), to compare data acquire using differential correction SBAS and Autonomous Solution by using static method and to analyze the classification of data based on IHO. The method use in this study is using static method which is the control point was establish using high accuracy of data where the RINEX data was by from JUPEM and compare with SBAS and Autonomous. So, this study can be concluding that the continuity of SBAS in Malaysia is good and the comparison between SBAS and Autonomous are shown that SBAS is more accurate and Autonomous have got a new accuracy. Lastly, refer to IHO SBAS are in first class order and Autonomous are in 1a and 1b class order and can be used in offshore survey.

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