



## ACCURACY ANALYSIS OF GPS TECHNOLOGY IN IDENTIFYING THE QIBLA DIRECTION OF DARUSSALAM MOSQUE, MAKASSAR

**Dimas Syarief Hidayatullah**

Universitas Islam Negeri Walisongo Semarang

[dsyarief58@gmail.com](mailto:dsyarief58@gmail.com)

**Fatmawati**

Universitas Islam Negeri Alauddin Makassar

[fatmawati@uin-alauddin.ac.id](mailto:fatmawati@uin-alauddin.ac.id)

**Ahmad Adib Rofiuddin**

Universitas Islam Negeri Walisongo Semarang

[adibudin08@walisongo.ac.id](mailto:adibudin08@walisongo.ac.id)

**Ahmad Sholih Zanuar**

Universitas Islam Negeri Walisongo Semarang

[ahmadsholih158@gmail.com](mailto:ahmadsholih158@gmail.com)

### Abstract

This research analyzes the accuracy of GPS technology in determining the Qibla direction of Darussalam Mosque, located in Mampu Subdistrict, Wajo District, Makassar City. The core problem addressed in this study is the uncertainty surrounding the mosque's Qibla orientation, which was initially set by Kodam XIV Hasanuddin but has never been systematically re-measured using scientific methods. Employing a qualitative field research design with an Islamic astronomy (Ilmu Falak) approach, data were obtained through observation, documentation, and interviews with mosque administrators, community figures, and relevant stakeholders. Measurements were conducted using several GPS-based applications such as Google Maps, Qibla Finder, Qiblat Compass, and mobile GPS sensors. The results indicate that the latitude and longitude readings from the four tools were relatively consistent, with minor discrepancies caused by satellite signal instability, magnetic interference, and the dense urban environment surrounding the mosque. Overall, the study highlights the importance of integrating modern geospatial technology and classical astronomical principles to enhance the reliability of Qibla orientation in urban mosque settings.

**Keywords:** GPS Accuracy, Qibla Direction, Darussalam Mosque, Coordinate Measurement, Ilmu Falak.

## A. Introduction

Mapping and determining geographical coordinates are essential aspects in various sectors of human life, particularly in spatial planning and regional management. In the Indonesian context, the Global Positioning System (GPS) has been widely utilized to simplify the process of identifying geographic locations with a high degree of accuracy. The use of GPS technology enables the determination of latitude and longitude with greater precision, which is crucial for activities such as mapping, navigation, infrastructure planning, and public service management. Over time, GPS technology has evolved and been integrated into various electronic devices, including smartphones and vehicles. The GPS data obtained are the result of receiver devices processing satellite imagery from space. As a system that considers the Earth's geodetic parameters to determine precise terrestrial coordinates, GPS provides a valuable point of comparison for testing the accuracy of traditional astronomical tools, such as the tongkat istiwa (gnomon)<sup>1</sup>.

GPS technology has become one of the most significant innovations in the digital era, providing the capability to determine location with high precision—an essential need across fields such as transportation, navigation, surveying, and scientific research<sup>2</sup>. The implementation of GPS has also expanded into the religious domain, particularly in determining the geographic coordinates of places of worship such as mosques.

Darussalam Mosque, located in Mampu Subdistrict, Wajo District, Makassar City, serves as a vital religious center for the surrounding community. Beyond its primary function as a place of worship, it also functions as a social and educational hub for local residents. Accurate determination of the mosque's latitude and longitude coordinates offers multiple benefits, such as facilitating

---

<sup>1</sup>Fatmawati, *Hakikat Ilmu Falak*, (Cet. I: Pusaka Almaida, 2016).h. 14

<sup>2</sup>Arwin Juli Rakhmadi Butar Butar, *Pengantar Ilmu Falak Teori,Praktik dan Fikih* (Cet I; Depok: PT RajaGrafindo Persada,2018.) h.32

access for visitors from outside the region through digital map applications, and supporting the development of technology-based spatial data. However, there has not yet been a comprehensive study documenting the use of GPS technology in determining the coordinates of Darussalam Mosque. This gap presents a challenge, as accurate geographic information plays a significant role in enhancing mosque management and planning.

Despite the rapid advancement of GPS technology, its implementation still faces several challenges, particularly in dense urban environments such as Makassar. Signal interference, physical obstructions from tall buildings, and limited public understanding of GPS use are among the factors that may affect its accuracy and effectiveness in determining precise locations. Furthermore, the choice of Darussalam Mosque as the research site is based on a unique consideration: the prohibition of digital technology use within the mosque area, as it is located inside the Military Police residential complex, which enforces strict regulations regarding electronic devices. This restriction poses a distinct challenge for collecting accurate geographic data. Therefore, this research not only addresses these challenges but also explores how technology can be utilized wisely without violating established regulations.

Moreover, this study aims to provide practical benefits in improving community services. By employing GPS technology, mosque administrators can easily integrate spatial data into various digital platforms such as map applications and navigation guides<sup>3</sup>. This is particularly important in urban areas like Makassar, where mobility dynamics are high. Accurate coordinate data also facilitate better logistical planning for large-scale religious events involving participants from different regions. Given the urgency and relevance of these issues, this research aims to examine the use of GPS technology in determining

---

<sup>3</sup>Muh. Rasywan Syarif, *Ilmu Falak Integrasi Agama Dan Sains*, (Cet. I; Gowa: Alauddin University Press, 2020). h. 57

the latitude and longitude coordinates of Darussalam Mosque. The findings are expected to contribute to the broader application of modern technology in religious facility management and serve as a reference for other mosques in Makassar and beyond. Additionally, this study seeks to enhance public awareness of the importance of technological integration in supporting religious and social activities, and to provide a foundation for future development of digital technology utilization within the religious sector at both local and national levels.

## **B. Research Methods**

This study employs a qualitative field research method with an approach based on Islamic Astronomy (Ilmu Falak)<sup>4</sup>. The primary data of this research were obtained directly from key informants through structured interviews. Meanwhile, the secondary data consist of supporting materials such as books, journals, and scholarly articles that discuss topics related to the determination of auspicious days (penentuan hari baik) and astronomical calculations. The data collection methods include observation, documentation, and interviews<sup>5</sup>, which together provide a comprehensive understanding of the research context. The data processing and analysis techniques follow the steps of data reduction, data display (presentation), and verification (conclusion drawing).<sup>6</sup> To ensure the validity and reliability of the data, several triangulation techniques were employed, including data triangulation, observer triangulation<sup>7</sup>, theoretical triangulation, and methodological triangulation.

---

<sup>4</sup>Subandi, Subandi. "Deskripsi kualitatif sebagai satu metode dalam penelitian pertunjukan." *Harmonia journal of arts research and education* 11.2 (2011), h. 82.

<sup>5</sup>Sugiyono, Metode Penelitian Kuantitatif Kualitatif dan R&D (Bandung: Alfabeta, 2013), h. 137.

<sup>6</sup>Cholid Narbuko dan Abu Achmadi, Metodologi Penelitian, Cet x (Jakarta: PT. Bumi Aksara), 2019, h. 43

<sup>7</sup>Syafrida Hafni Tahir, Metodologi Penelitian (Jogjakarta: KBM Indonesia, 2021), h. 48

## C. Results and Discussion

### 1. General Overview of the Research Location

This research was conducted at Darussalam Mosque, located in Mampu Subdistrict, Wajo District, Makassar City. The mosque plays an important role in the religious life of the local community, serving not only as a place of worship but also as a center for social and Islamic educational activities. However, to date, no specific study has been carried out to examine the accuracy of the mosque's latitude and longitude coordinates using GPS technology.<sup>8</sup> The surrounding environment of Darussalam Mosque is relatively dense with buildings and other infrastructure, which may affect the accuracy of GPS signal reception. Furthermore, there are specific regulations within the area that restrict the use of electronic devices, posing an additional challenge for the data collection process.

### 2. The Process of Using GPS Technology to Analyze Latitude and Longitude Coordinates at Darussalam Mosque, Mampu Subdistrict, Wajo District, Makassar City

Global Positioning System (GPS) technology has become an essential tool across various disciplines—ranging from navigation and mapping to geospatial analysis<sup>9</sup>. GPS allows users to determine their exact geographical position (latitude and longitude) with high precision by receiving signals from satellites orbiting the Earth<sup>10</sup>. This technology has significantly transformed how humans

---

<sup>8</sup>Rahmatiah, H.I., Pengaruh Human Error Terhadap Akurasi Arah Kiblat Masjid Dan Kuburan di Kabupaten Gowa Provinsi Sulawesi Selatan, *Elfalaky* 4.2 2020.18 <https://journal.uinalauddin.ac.id/index.php/hisabuna/article/view/18> (diakses tanggal 20 Oktober 2025)

<sup>9</sup>Rahmat, Andi Rachmat Ady Ullang, Fatmawati, And Faisal Akib, 'Uji Akurasi Penggunaan Instrumen Uni-One Tracker Dalam Penentuan Arah Kiblat Di Kampus Uin Alauddin Makassar', *HISABUNA: Jurnal Ilmu Falak*, 5.1 (2024), 1–28 <https://doi.org/10.24252/hisabuna.v5i1.41312> (diakses tanggal 20 Oktober 2025)

<sup>10</sup>Syam Adhiyah Hikmatul, Subehan Khalik Umar, Harmonisasi Instrumen Arah Kiblat *Hisabuna: Ilmu Falak* 1.1 2020 <https://doi.org/10.24239/jsi.v9i2.76.29> (diakses tanggal 21 Oktober 2025)

access and interpret location-based information with efficiency and accuracy. Fundamentally, GPS works by transmitting signals from satellites to receiver devices on Earth, which then calculate the distance between each satellite and the receiver to determine the user's location. The GPS system comprises more than 30 satellites distributed across various orbital positions and connected to ground control stations that provide real-time positional data.<sup>11</sup>

In practical research contexts such as architecture, urban planning, and geography, GPS offers immense advantages by providing precise coordinate data. Beyond conventional navigation and mapping purposes, GPS technology can also be employed to measure and map specific locations that were previously difficult to access. One of the most interesting applications is the determination of the geographical coordinates of religious buildings, such as mosques, where accuracy is essential for orientation purposes, especially the direction of the Qibla.

With technological advancements, GPS devices have become increasingly integrated into digital mapping applications and mobile devices, enabling independent and rapid location measurements. Consequently, GPS serves not only as a navigation tool but also as a revolutionary geospatial technology, expanding public access to accurate geographical data that supports both scientific research and community needs.<sup>12</sup> Mr. Arikwansa, Chairman of Darussalam Mosque at the Military Police Dormitory of Gatot Subroto, explained:

"The Qibla direction of this mosque was initially determined by Kodam XIV Hasanuddin, and it has never been re-measured. GPS functions to determine coordinate points to measure directions toward a specific destination—by using applications like Google Maps to set the desired location and follow the system's

---

<sup>11</sup>Qalbi Nurul, Rahma Amir, Sippah Chotban, 'Problematika Penentuan Arah Kiblat Rumah Masyarakat', *Hisabuna: Jurnal Ilmu Falak*, 4.1 (2023), 23–42 <https://journal.uin-alauddin.ac.id/index.php/hisabuna/article/view/31148> (diakses tanggal 21 Oktober 2025)

<sup>12</sup>Syarif, Muhammad Rasywan, 'Problematika Arah Kiblat Dan Aplikasi Perhitungannya', *HUNAFA: Jurnal Studia Islamika*, 9.2 (2012), h. 245 <https://doi.org/10.24239/jsi.v9i2.76.245-269> (diakses tanggal 22 Oktober 2025)

guidance<sup>13</sup>.”

His statement indicates that the Qibla direction was established institutionally and never verified afterward. If the initial method was precise, the Qibla is likely correct; however, if it was based merely on estimation, potential deviation might occur. Although GPS can assist in determining Qibla direction, reliance solely on Google Maps may be insufficient because it is based on magnetic north, not the Kaaba’s azimuth. Therefore, specialized tools such as Qibla Finder or Theodolite are recommended for higher accuracy. Regular verification using Rashdul Qiblah or astronomical instruments is also crucial to ensure the correctness of the Qibla direction.

Mr. Madiyana stated:

“The construction of Darussalam Mosque was oriented toward the Qibla direction using traditional methods such as the position of stars and geographical coordinates. However, there has never been an expert measurement to verify its accuracy. Deviations up to 17–25° are still considered acceptable in Islamic jurisprudence, though greater deviations could affect prayer validity<sup>14</sup>.”

This statement reflects reliance on traditional methods without expert reassessment, potentially causing Qibla misalignment. While certain tolerances exist in fiqh, modern tools such as GPS, theodolites, or Qibla compasses should be employed for re-verification to ensure precision and compliance with religious law.

Mr. Syaiful admitted:

“The accuracy of the mosque’s Qibla direction has never been measured<sup>15</sup>.”

This suggests the absence of formal verification regarding Qibla

---

<sup>13</sup>Arikwansa, (50 tahun) Ketua Masjid Darussalam Asrama Polisi Militer Gatot Subroto, *Wawancara*, Makassar 15 Januari 2025.

<sup>14</sup>Madiyana, (48 tahun) Kepala Asrama Polisi Militer Gatot Subroto *Wawancara*, Makassar 15 Januari 2025.

<sup>15</sup>Muhammad Syaiful, (53 tahun) Ketua Marbot Masjid Darussalam Asrama Polisi Militer Gatot Subroto, *Wawancara*, Makassar 16 Januari 2025.

orientation, creating uncertainty about its precision. From both fiqh and astronomical perspectives, re-measurement by a falak expert is essential to confirm the mosque's orientation toward the Kaaba, thereby ensuring the validity and comfort of worshippers during prayer.

Mr. Syawal stated:

"The geographical positioning and Qibla direction were determined by Kodam XIV Hasanuddin, and no specialists were ever invited for verification. The direction is simply based on the general alignment of congregants during prayer<sup>16</sup>."

This implies that orientation was determined by common consensus rather than scientific measurement, which could lead to cumulative deviation. Hence, the mosque administration should conduct an immediate re-evaluation using precise astronomical techniques.

Mr. Thariq explained:

"The mosque construction did not face any geographical obstacles, but since the Ministry of Religious Affairs has not yet come for measurement, we still use the original Qibla orientation<sup>17</sup>."

Similar to previous statements, this indicates passive reliance on initial measurements. It is recommended that mosque authorities proactively seek professional re-measurement rather than waiting for external initiatives.

Ms. Mas'ati mentioned:

"The mosque's Qibla direction has been verified by the Ministry of Religious Affairs after being initially determined by Kodam XIV Hasanuddin<sup>18</sup>."

This statement introduces differing information suggesting that

---

<sup>16</sup>Muhammad Syaiful, (53 tahun) Ketua Marbot Masjid Darussalam Asrama Polisi Militer Gatot Subroto, *Wawancara*, Makassar 16 Januari 2025

<sup>17</sup>Muhammad Thariq (25 tahun) Pengurus Masjid Darussalam Asrama Polisi Militer Gatot Subroto, *Wawancara*, Makassar 16 Januari 2025.

<sup>18</sup>Mas'ati, (50 tahun) Pengurus Masjid Darussalam Asrama Polisi Militer Gatot Subroto, *Wawancara* 18 Januari 2025.



verification may have been performed. Nevertheless, it remains unclear whether the updated Qibla orientation has been practically implemented. Verification of application is thus necessary to ensure conformity with the Kaaba direction.<sup>19</sup>

Based on the interviews with mosque administrators and community figures, it can be concluded that although the Qibla direction of Darussalam Mosque was initially established by Kodam XIV Hasanuddin, no consistent verification has been conducted since then. Several respondents admitted that a deviation of 17–25° is tolerated in Islamic jurisprudence. However, even within acceptable limits, such deviation underscores the importance of re-measuring the Qibla direction for greater certainty in worship.<sup>20</sup> The re-verification process using modern astronomical methods such as GPS, theodolite, and hisab (calculation) is therefore essential to ensure that the mosque's orientation precisely aligns with the Kaaba in Makkah.<sup>21</sup>

**Tabel 1.** Hasil Pengukuran arah kiblat dengan menggunakan *Software GPS* Masjid Darussalam Kel. Mampu, Kec. Wajo Kota Makassar

No	Aplikasi yang digunakan	Koordinat Lintang	Koordinat Bujur	Hasil Arah Kiblat U-B	Hasil Arah Kiblat B-U
1.	Google Maps	5°12's	119°41'	67°33'	22°27'
2.	Qiblat Finder	5°07's	119°24'	67°31'	29°29'
3.	Kompas Kiblat	5°07's	119°24'	67°31'	22°29'
4.	Koordinat GPS	5°07's	119°24'	67°31'	22°29'

<sup>19</sup>Hanafi, H. (2012). *Ilmu Falak Praktis: Penentuan Arah Kiblat, Waktu Salat, dan Gerhana*. Jakarta: Amzah.

<sup>20</sup>Azhari, S. (2015). *Ilmu Falak: Metode Hisab dan Rukyat*. Yogyakarta: LKiS Pelangi Aksara.

<sup>21</sup>Abd al-Rahman, M. (2010). *Astronomy in Islam: The Qibla, the Lunar Calendar, and the Prayer Times*. London: Islamic Foundation.

The measurement of latitude and longitude coordinates for Darussalam Mosque was performed using mobile GPS devices and digital mapping applications. Results indicate that variations between different applications remain within acceptable tolerance levels, with minor discrepancies likely caused by signal interference and environmental obstructions.

Comparison with hisab-based calculations revealed an average deviation of approximately 0.002 degrees, which falls within the permissible margin for Qibla determination<sup>22</sup>. Nonetheless, the study found that signal disturbances, magnetic distortion from nearby structures, and urban density significantly influence GPS accuracy. Therefore, selecting optimal timing and environmental conditions during data collection is vital for achieving precise results.<sup>23</sup> Overall, the findings highlight the importance of integrating modern GPS technology with traditional falak methods to ensure accurate and reliable Qibla orientation<sup>24</sup>, contributing to both the scientific and religious integrity of mosque management in urban settings such as Makassar.

#### **D. Conclusion**

The use of GPS technology to determine the latitude and longitude coordinates of Masjid Darussalam, located in Kelurahan Mampu, Wajo District, Makassar City, has proven to produce fairly accurate results, despite slight variations among the devices used. Based on measurements conducted using four different tools—Google Maps, Qiblah Finder, Qiblat Compass, and GPS—the resulting coordinates were relatively consistent, with minor discrepancies likely caused by technical factors such as measurement errors, unstable satellite

---

<sup>22</sup>Zainul, A. Toleransi penyimpangan pengukuran arah kiblat. *El-Falaky: Jurnal Ilmu Falak*, 2(1).

<sup>23</sup>Kusuma, H. (2020). *Pengantar Geodesi dan Sistem Koordinat*. Yogyakarta: Deepublish.

<sup>24</sup>King, D. A. (2004). Determining the Qibla: The direction for Muslim prayer, methods and instruments. In *Islamic Geosciences* (pp. 170–177). London: Springer.

signals, or environmental interference. Nevertheless, the data obtained remain reliable for determining the mosque's geographical position. However, small differences in the calculated Qibla direction indicate the need for further refinement, particularly through magnetic declination corrections or higher-precision calibration methods. In practice, several challenges were also encountered, including dependence on satellite signals that can be disrupted by weather conditions, surrounding geography, or tall buildings near the observation site. Such interference may cause minor inaccuracies, especially when the GPS device fails to connect optimally with the satellites.

Moreover, differences between devices suggest calibration and sensitivity variations that can affect precision. Therefore, while GPS technology is highly useful for determining latitude and longitude, additional verification through traditional falak (astronomical) methods or alternative instruments remains necessary to ensure the accuracy of the obtained data. determining accurate geographical coordinates. The results may serve as a reference for academics, researchers, and practitioners who aim to develop technology-based methods for qibla determination. Furthermore, this research seeks to enhance public awareness of the importance of modern technology in ensuring precision in qibla orientation and in supporting spatial data management of mosques through scientific approaches

## DAFTAR PUSTAKA

- Abd al-Rahman, M. (2010). *Astronomy in Islam: The Qibla, the Lunar Calendar, and the Prayer Times*. London: Islamic Foundation.
- Alimuddin. 2014. *Ilmu Falak II*. (Cet. I: Pusaka Almaida, 2016)
- Al-Quran Al-Karim. Kementerian Agama Republik Indonesia.  
<https://quran.kemenag.go.id/>
- Azhari, S. (2015). *Ilmu Falak: Metode Hisab dan Rukyat*. Yogyakarta: LKiS Pelangi Aksara.
- Butar Butar Juli Rakhmadi Arwin, Pengantar Ilmu Falak Teori,Praktik dan Fikih (Cet I; Depok: PT RajaGrafindo Persada,2018.
- Cholid Narbuko dan Abu Achmadi, *Metodologi Penelitian*, Cet x (Jakarta: PT. Bumi Aksara), 2019
- Fatmawati, *Hakikat Ilmu Falak*, (Cet. I: Pusaka Almaida, 2016).
- Hamdani, F. F. R. S., et al. (2020). *An Accuracy Test of Qibla Direction Measurement of Mosques and Prayer Rooms around Bandung Wetan District. Advances in Social Science, Education and Humanities Research*,
- Hanafi, H. (2012). *Ilmu Falak Praktis: Penentuan Arah Kiblat, Waktu Salat, dan Gerhana*. Jakarta: Amzah.
- <https://doi.org/10.24239/jsi.v9i2.76.29>
- Kementrian Agama RI, *Alqur'an dan Terjemahnya*, (Bandung: CV Mikraj Khazana Ilmu, 2019)
- Khairunnisa, A., Adam, M., Rivaldi, M. H., & Kholili Zain, M. F. (2025). *Qibla Direction Determination in Historical Mosques: Methodological and Accuracy Assessment at Jami' Al-Anwar Mosque, Bandar Lampung. Al-Hilal: Journal of Islamic Astronomy*, 7(2)
- King, D. A. (2004). Determining the Qibla: The direction for Muslim prayer, methods and instruments. In *Islamic Geosciences* (pp. 170–177). London: Springer.
- Kusuma, H. (2020). *Pengantar Geodesi dan Sistem Koordinat*. Yogyakarta: Deepublish.
- Muh. Rasywan Syarif, *Ilmu Falak Integrasi Agama Dan Sains*, (Cet. I; Gowa: Alauddin University Press, 2020).
- Qalbi Nurul, Rahma Amir, Sippah Chotban, 'Problematika Penentuan Arah Kiblat Rumah Masyarakat', *Hisabuna: Jurnal Ilmu Falak*, 4.1 (2023), 123– 42  
<https://journal.uin-alauddin.ac.id/index.php/hisabuna/article/view/31148>
- Rahmat, Andi Rachmat Ady Ullang, Fatmawati, And Faisal Akib, 'Uji Akurasi Penggunaan Instrumen Uni-One Tracker Dalam Penentuan Arah Kiblat Di Kampus Uin Alauddin Makassar', *HISABUNA: Jurnal Ilmu Falak*, 5.1 (2024), 1–28 <https://doi.org/10.24252/hisabuna.v5i1.41312>
- Rahmatiah, H.I., Pengaruh Human Error Terhadap Akurasi Arah Kiblat Masjid Dan Kuburan di Kabupaten Gowa Provinsi Sulawesi Selatan, *Elfalaky* 4.2 2020.18 <https://journal.uinalauddin.ac.id/index.php/hisabuna/article>
- Subandi. "Deskripsi kualitatif sebagai satu metode dalam penelitian

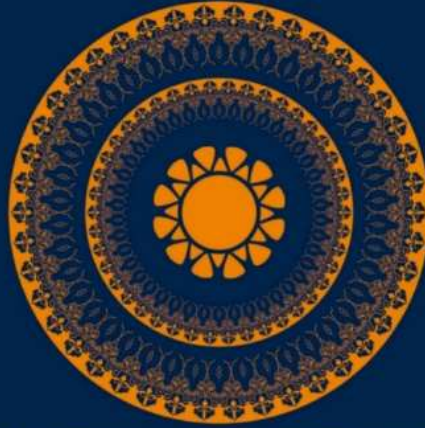
- pertunjukan."* *Harmonia journal of arts research and education* 11.2 (2011),
- Sugiyono, *Metode Penelitian Kuantitatif Kualitatif dan R&D* (Bandung: Alfabeta, 2013),
- Syafrida Hafni Tahir, *Metodologi Penelitian* (Jogjakarta: KBM Indonesia, 2021),
- Syam Adhiyah Hikmatul, Subehan Khalik Umar, Harmonisasi Instrumen Arah Kiblat Hisabuna: Ilmu Falak 1.1 2020.
- Syarif, Muhammad Rasywan, 'Problematika Arah Kiblat Dan Aplikasi Perhitungannya', *HUNafa: Jurnal Studia Islamika*, 9.2 (2012), 245  
<https://doi.org/10.24239/jsi.v9i2.76.245-269>
- Wakia Nurul, and H.R Sabriadi. *Meretas Problematika Arah Kiblat Terkait Salat di Atas Kendaraan Elfalaky* 4.2 2020. <https://journal.uin-alauddin.ac.id/index.php/hisabuna/article/view/48>
- Zainul, A. (2018). Toleransi penyimpangan pengukuran arah kiblat. *El-Falaky: Jurnal Ilmu Falak*,

#### **Wawancara**

- Arikwansa, (50 tahun), *Wawancara*, 16 Januari 2025
- Madiyana, (47 tahun), *Wawancara*, 16 Januari 2025
- Muhammad Syaiful, (58 tahun), *Wawancara*, 16 Januari 2025
- Muhammad Syawal (29 tahun) *Wawancara*, 15 Januari 2025
- Muhammad Thariq, (24 tahun) *Wawancara* 17 Januari 2025
- Mas'ati (50 Tahun) *Wawancara* 17 Januari 2025

JURNAL

# الفلك Elfalaky Jurnal Ilmu Falak



**ACCURACY ANALYSIS OF GPS TECHNOLOGY IN IDENTIFYING THE QIBLA DIRECTION OF  
DARUSSALAM MOSQUE, MAKASSAR**

*Dimas Syarief Hidayatullah, Fatmawati, Ahmad Adib Rofiuddin, Ahmad Sholih Zanuar*

**ANALISIS FATWA MUI TERHADAP WAKTU SALAT DI DAERAH KUTUB**

**PERSPEKTIF KAIDAH-KAIDAH FIQH**

*Hilyatul Uyuni, Nurul Wakia*

**ANALISIS SISTEM TRAKCING TELESKOP CELESTRON 80 LCM DAN HUBUNGANNYA  
DENGAN POTENSI KESALAHAN IDENTIFIKASI HILAL**

*Nurhazmah. S, M. Ihtirozum Ni'am*

**IMPLEMENTASI KREATIF MEDIA DESAIN DALAM MAJALAH DINDING FALAK "ALAMPEDIA"  
SEBAGAI SARANA LITERASI ILMIAH**

*Syamsul Alam, Muh. Rasywan Syarif, Sippah Chotban*

**OTORITAS ULIL AMRI DALAM PENENTUAN AWAL BULAN KAMARIAH**

*(Kajian terhadap Pandangan Nahdlatul Wathan)*

*Muh Izzat Ubaidi, Muhammad Saleh Sofyan*

**PENGARUH INTEGRASI ILMU FALAK DALAM KURIKULUM TERHADAP KOMPTENSI SPASIAL-SYAR'I  
MAHASISWA TEKNIK DI UNIVERSITAS MUHAMMADIYAH MAKASSAR**

*Mursyid Fikri*

**PROBLEMATIKA BENTUK BUMI (Studi Analisis Bentuk Bumi Bulat Perspektif Mufasssir)**

*Nur aisyah*

**TIPOLOGI FAJAR DALAM FIKIH DAN SAINS (Studi Integratif fajar Kazib dan Fajar Sadik)**

*Annisa Nurfadillah, Khairul Anam, Ahmad Izzuddin, Slamet Hambali*

**WAKTU AFDHAL SALAT ISYA PERSPEKTIF FIQH**

*(Kajian atas Prinsip al-Khuruj min al-Khilaf al-Mustahabb)*

*Nurfadillah Surya, M. Basthoni, Ahmad Adib Rofiuddin*

**YURISDIKSI MATHLA' WILAYATUL HUKMI INONESIA DALAM PENETAPAN  
AWAL BULAN KAMARIAH BERDASARKAN HUKUM KEDAULATAN WILAYAH**

*Novi Arisafitri, Rizal Ramadhan*



PROGRAM STUDI ILMU FALAK  
FAKULTAS SYARIAH DAN HUKUM  
UNIVERSITAS ISLAM NEGERI ALAUDDIN MAKASSAR