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# MH370

INDEPENDENT TECHNICAL  
ANALYSIS OF ITS  
DISAPPEARANCE



# **MH370: Independent Technical Analysis of Its Disappearance**

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*Proposed Theory Linking Zaharie Ahmad Shah's Simulator Data to MH370 Flight Path and Refined Search Area*

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We are submitting this report to propose a novel theory regarding the disappearance of Malaysia Airlines Flight MH370 on March 8, 2014. This hypothesis connects the flight simulator data of Captain Zaharie Ahmad Shah to a deliberate flight path, suggests a specific route based on waypoints, and proposes a refined search area. This theory has not been previously detailed in public investigations and aims to provide a concrete link between the simulator evidence and the actual flight, moving beyond mere speculation. Below, we outline the theory in three sections: the significance of the simulator's "South Point", the proposed flight route, and a recalculated search area.

## 1. Theory on the “South Point” from the simulator and why MH370 did not reach it background and hypothesis

The simulator data recovered from Captain Zaharie Ahmad Shah’s personal computer by Malaysian authorities and later analyzed by the FBI consisted of seven manually entered geographical coordinates, with no associated aircraft state data (such as altitude, heading, or engine status). It was not possible to determine with certainty whether these coordinates were generated during a single flight session or across multiple ones. However, their alignment along a logically consistent southbound trajectory suggests a deliberate and planned path. The coordinates appear to simulate a long-range flight beginning at Kuala Lumpur International Airport (KLIA) and progressing toward a remote point in the southern Indian Ocean (45.1°S, 104.1°E), which is referred to throughout this report as the “*South Point*”. While the route is not continuous in terms of recorded data, several of the coordinates align with known airways and positions along a real-world flight profile.

### A breakdown of the known coordinates is as follows

- Points 1 & 2: Located nearby over KLIA (departure point).
- Point 3: Approximately 3°N, 101°E, near the R467 airway, possibly between waypoints AGOSA and GUNIP.
- Point 4: Approximately 5°N, 99°E, possibly along the B466 airway, potentially between GUNIP and TASEK.
- Point 5: 10°12’N, 90°12’E, situated between known oceanic waypoints DOTEN and LAGOG, deep within the Chennai FIR. This is a particularly isolated oceanic sector, where once clearance is given, controller monitoring is minimal, making it an ideal location for a planned disappearance. This coordinate, which we refer to in this report as the “North Point”, may have been the intended turn “South Point” in the simulation.
- Points 6 & 7: Final destination at 45.1°S, 104.1°E, far beyond MH370’s fuel range, but reachable under MH150’s operating conditions.

Although DOTEN and LAGOG themselves were not entered directly, the proximity of Point 5 to these waypoints and its strategic location in the Chennai FIR strongly suggests that Zaharie was following a route similar to that used during flight MH150, which he operated on February 4, 2014, just over a month before MH370’s disappearance. MH150, flying northwest toward Jeddah, traverses these remote FIRs and airways, including R467 and B466. The simulator data mirrors this departure structure before executing a sharp southern turn, implying a *rehearsed plan* grounded in operational experience and precise geographical logic.

## Fuel Analysis and the Penang Deviation

MH370 departed with 49,200 kg of fuel, sufficient for a 7,150 km range at cruising speed (M0.84, ~840 km/h) with reserves, based on the planned Kuala Lumpur to Beijing route. However, several factors reduced its effective range:

- Takeoff and Climb: Approximately 5,400 kg were consumed in the first 25 minutes (ATSB estimate).
- Cruise Consumption: At 7.4 kg/km, 7,150 km would require ~52,910 kg, but the ATSB estimates ~43,800 kg were used until the seventh Inmarsat arc (00:19 UTC, 35.5°S, 97.0°E).
- Penang Deviation: The initial turn back and detour via Penang (6.5°N, 100.2°E) added ~1,800 km to the original path, consuming an estimated 13,300 kg (1,800 km × 7.4 kg/km). This left ~35,500 kg after Penang, significantly below the required amount.
- Penalization: The non-optimal aerodynamics and fuel management during the deviation imposed a 10–15% efficiency loss (NTSB simulations).

## Distance to “South Point” and Fuel Shortfall

The distance from the seventh arc (35.5°S, 97.0°E) to the “South Point” (45.1°S, 104.1°E) is approximately 4,630 km. With such a quantity, at 00:19 UTC, the plane could only reach the Seventh Arch, very far from the target. In contrast, MH150’s 68,500 kg could have supported ~9,250 km, allowing a potential reach to 45.1°S, 104.1°E with reserves. The 19,300 kg fuel difference (68,500 kg - 49,200 kg) accounts for the shortfall, equivalent to ~2,607 km, which could have bridged the gap from the seventh arc to the “South Point”. This critical difference supports the theory that Zaharie’s plan was feasible with MH150 but thwarted by MH370’s lower fuel load and the Penang detour.

## Conclusion

The “South Point” was Zaharie’s intended destination, practiced in the simulator and viable with MH150’s fuel. The MH370’s deviation to IGARI (opposite to the desired direction) and passing next to Penang consumed crucial fuel, preventing arrival.



Figure 1: Simulator desired Path (black) vs WSPR report route (yellow)

## 2. Proposed Flight Route

### Simulator Route

The simulator data includes a coordinate located between the oceanic navigation waypoints DOTEN (now AMVUR) and LAGOG, within the Chennai FIR, at cruising altitude. Although these waypoints were not directly entered, the proximity of the recorded coordinate suggests an intentional selection of this region due to its operational characteristics: isolation, limited radar coverage, and minimal ATC oversight in oceanic airspace. In such FIRs, once clearance is granted, controllers do not actively monitor the aircraft, making it an ideal area for a planned disappearance. The known trajectory of MH370 suggests an initial westward course from Kuala Lumpur, consistent with the early post-IGARI phase of the flight, during which the PIC (pilot in control) could have shortened the route as much as possible to rejoin the original path toward his intended destination.

Original Route (MH150): GUNIP – TASEK – MEKAR – NORTH POINT – [UNKNOWN] – “South Point”

Proposed Route after MEKAR (8<sup>th</sup> March 2014 MH370): NILAM - SANOB - IGEBO - POVUS - URDAM - BULVA - MABIX - ISBIX - PIPOV – [maybe BEBIM] – POINT SOUTH

We propose that Zaharie followed a more detailed route, approximating his simulator plan with additional waypoints to navigate toward the “South Point”, starting just after passing MEKAR. The sequence is:

- NILAM: N6°45.69' E95°58.43'
- SANOB: N6°35.87' E95°39.89'
- IGEB0: N6°13.55' E95°4.87'
- POVUS: N6°0.65' E94°39.74'
- URDAM: N5°23.69' E94°27.79'
- BULVA: N4°34.91' E93°59.91'
- MABIX: N3°16.47' E94°51.13'
- ISBIX: N0°22.93' E93°40.27'
- PIPOV: S4°21.99' E92°32.08'
- “South Point”: 45.1°S, 104.1°E.

## **Relation to Godfrey’s WSPR Data**

The WSPR system has been proposed as a novel supplementary tool to help trace the flight path of MH370 by detecting anomalies in global radio propagation possibly caused by the aircraft’s presence. Richard Godfrey’s detailed analysis identifies a high-confidence anomaly cluster at 00:26 UTC, supported by three SNR > 1.0 dB links, which meets the minimum reliability threshold established in his methodology. While this detection is valid within WSPR parameters, the anomalies are spatially spread and not tightly convergent, leading to an acknowledged positional uncertainty of up to 117 km, depending on the transmitter-receiver geometry. It’s important to recognize that WSPR does not yield precise geolocation, but rather broad areas of possible influence. As such, it must be treated with cautious interpretation when attempting to reconstruct an exact flight path. The position proposed in this report—based on fuel capacity, simulator data, and a continuous southbound trajectory post PIPOV—falls within the western edge of that uncertainty radius. It remains operationally coherent and consistent with the behavior of an aircraft in uncontrolled descent, particularly when considering Boeing and ATSB simulations. Those studies suggest that once fuel exhaustion occurs and the aircraft is powered only by the Ram Air Turbine (RAT), it would likely enter a spiraling descent, making any intentional turn toward the northeast highly improbable.

It is worth noting that the WSPR track reconstructed by Godfrey aligns with this report’s route up to waypoint PIPOV, and from there appears erratic—likely due to the system’s limitations when fewer strong anomalies are present. Nevertheless, the general heading observed beyond PIPOV approximates the direction of Zaharie’s programmed “South Point” adding circumstantial support to this trajectory. This report does not reject the use of WSPR, nor diminish the significance of Godfrey’s work—on the contrary, WSPR data underpins several critical elements of this hypothesis.

However, its known limitations in precision, particularly when interpreting the final portion of the flight, necessitate caution in using it as a sole source for determining the aircraft's endpoint.

## Segments Analysis

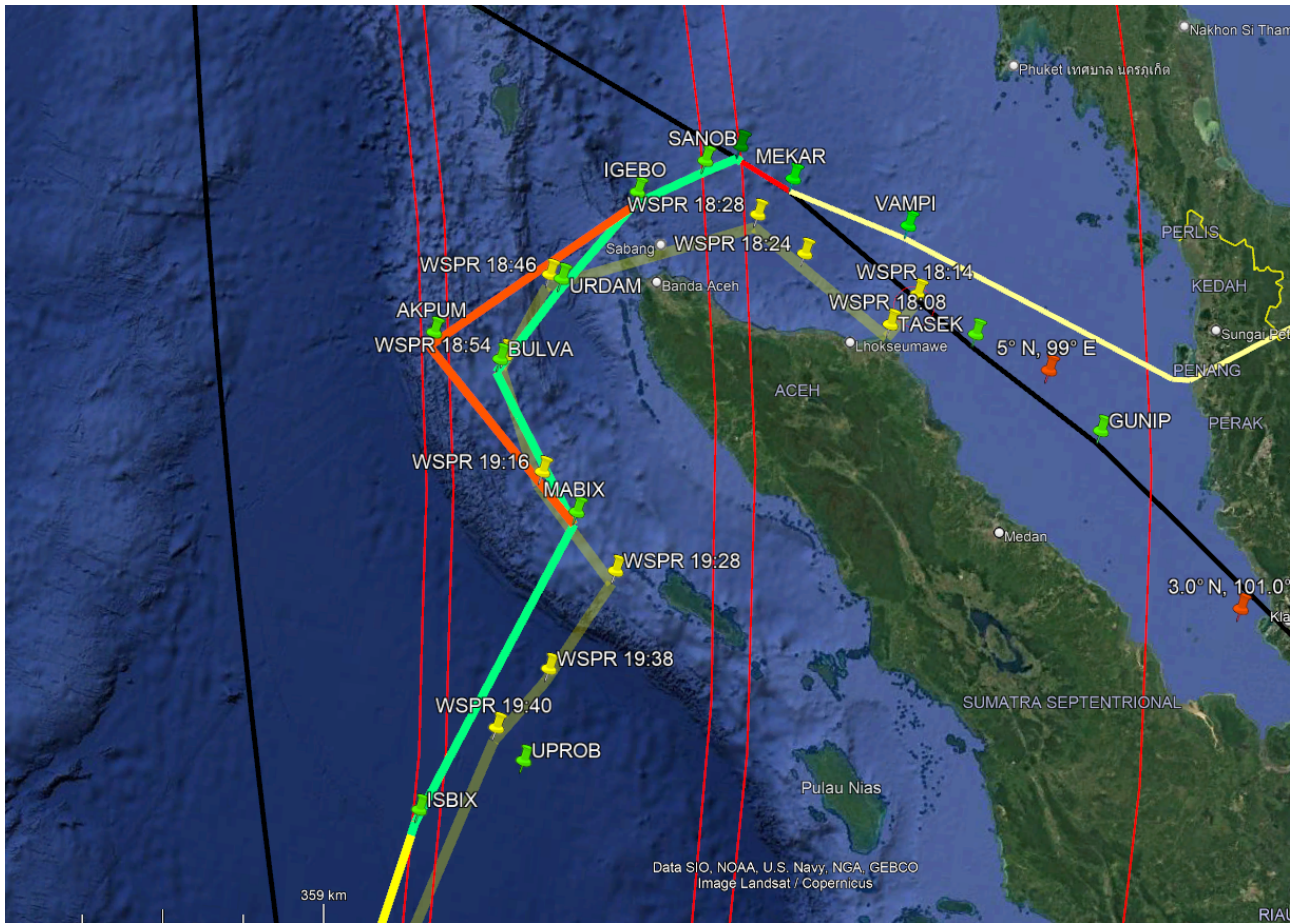
### ***Segment 1 [Between Log-on 1 and Handshake 1, Arcs 1 and 2]: 1h and 16 minutes.***

According to our proposed trajectory, the aircraft flew from MEKAR to NILAM, then continued through SANOB, IGEB0, URDAM, BULVA, MABIX and finally reached ISBIX within the interval between the first and second satellite handshakes (from 19:41 to 20:41 UTC). The total distance of this route, based on direct measurement over the specified waypoints, is approximately 875 kilometers, which is slightly lower than what would be expected for a one-hour flight under standard cruising conditions.

However, it is known that the aircraft was no longer flying at its initial cruising altitude of FL350. Instead, multiple sources indicate that during this segment it was flying at a reduced altitude, most likely between FL270 and FL300. This reduced altitude would naturally result in lower fuel efficiency and a slightly reduced ground speed compared to FL350, partially explaining the shorter distance covered. According to Boeing and official reconstruction sources, the aircraft had approximately 33,524 kg of fuel at 18:28 UTC, shortly after the SATCOM log-on and prior to the first hourly handshake. Based on this fuel state, and considering the aircraft's configuration and weight at that stage, the estimated expected ground distance for this segment would be approximately 1,000 kilometers, under optimal cruising at altitude and using meteorological models (GDAS) that already include real winds and temperatures at the relevant flight levels.

The calculated average ground speed for the so-called southern track scenario is based on Mach 0.706 / IAS 265 kt, resulting in a ground speed of approximately 432 kt when adjusted for a headwind of 14 kt from 85°, which was present in the region during that hour. The discrepancy between the measured route (875 km) and the expected distance (≈1055 km) is therefore about 180 km. This difference could potentially be explained by a combination of factors, including deviations from straight-line flight, possible short holding patterns, or minor course adjustments not visible in publicly known radar data. If instead of passing through BULVA the aircraft had chosen the route via AKPUM, the total distance would increase slightly, reducing the discrepancy to about 50 km.

This alternate path remains consistent with the general expected range for this handshake pair and stays within reasonable alignment of the WSPR-based tracks, although it deviates marginally westward. In summary, although this segment shows a slightly lower distance than the theoretical estimate, when considering the lower cruising altitude, wind-corrected speeds, possible lateral deviations, and the realistic margin of error, the route aligns sufficiently well with expected performance and known data, especially when the AKPUM variation is taken into account.



**Segment 2 [Between Handshake 1 and Handshake 2, Arcs 2 and 3]: 1h.**

Between ISBIX and PIPOV, extending partially into the initial segment of the southern track toward the final arc, the measured distance is approximately 818 kilometers. This is slightly above the expected value of around 799 kilometers for that handshake interval, but well within acceptable margins of deviation. The route alignment in this segment is consistent and coherent with known satellite data, and no significant deviations are evident.

According to official reports and trajectory reconstructions, the aircraft was still flying at FL300 during this segment and had not yet begun its final climb. At this altitude, the aircraft's fuel efficiency and ground speed would be slightly lower than if it were flying at FL350, meaning that covering a distance of 818 kilometers over the course of one hour is entirely plausible under those conditions. Had the aircraft already reached FL350, it could have covered a longer distance in the same time due to improved efficiency and true airspeed, but at FL300 the measured distance aligns well with expected performance. In summary, this segment is well-traced and presents no significant inconsistencies in terms of distance or expected fuel burn, and it remains within the performance envelope established by both official and independent modeling.

**Segment 3 [Between Handshake 2 and Handshake 3, Arcs 3 and 4]: 1h.**

Between 6°58'35.68"S 93°06'42.47"E and 11°52'43.59"S 94°12'30.54"E, corresponding to the segment between the third and fourth handshakes, the measured ground distance is approximately

558 kilometers. This figure is significantly lower than the expected distance of roughly 800 kilometers based on cruise performance at FL300. The discrepancy suggests that the aircraft did not maintain continuous forward motion along a straight track during the full interval. One plausible explanation for this reduced ground distance is the possibility of a holding pattern near the waypoint BEBIM, which lies almost directly on the presumed desired route to the Southern Point.

A holding maneuver in this area would allow the aircraft to remain airborne for the required duration while covering less linear distance, which would reconcile the timing of the handshake with the shorter measured displacement. Such a hold would also provide the opportunity for the pilot to manually input new coordinates into the FMC (Flight Management Computer), possibly marking the transition into the final programmed descent path. While this segment shows the largest discrepancy relative to expectations, it does not pose a critical concern.

WSPR-derived measurements for this portion of the route are considered among the least reliable due to increased signal noise and reduced coverage. Without a holding pattern or some form of loitering, the aircraft could not have covered so little ground in the available time, which supports the hypothesis that some maneuvering occurred in this phase. Therefore, the segment remains plausible within the broader trajectory logic.

#### ***Segment 4 [Between Handshake 3 and Handshake 4, Arcs 4 and 5]: 1h***

The fourth segment measures approximately 741 kilometers, which is slightly below the typical expected distance for a one-hour cruise segment but remains within reasonable margins. According to the WSPR-based analysis conducted by Godfrey, there were two significant step climbs during the flight, with one of them occurring around 21:14 UTC—coinciding with this portion of the flight. A step climb would result in a temporary reduction in ground distance covered during the affected interval, as the aircraft climbs through thinner air at a lower true airspeed relative to level cruise at constant power settings.

Given that the aircraft was likely climbing during this segment, the slightly reduced distance traveled is consistent with expected performance characteristics during a step climb. The vertical maneuver would reduce horizontal progress while maintaining airspeed, and this effect is well-documented in both commercial flight performance and simulation modeling. Overall, this segment presents no significant inconsistencies and falls within acceptable bounds, especially when accounting for the reported step climb. As such, it does not raise any concern in the context of the overall trajectory.

#### ***Segment 5 [Between Handshake 4 and Handshake 5, Arcs 5 and 6]: 1h***

The fifth segment is the most critical in terms of testing the proposed hypothesis, as it presents a measured ground distance of approximately 1,145 kilometers—significantly above the typical one-hour range of a Boeing 777 cruising at standard altitudes, which is generally around 900 kilometers. However, several operational and performance-related factors may account for this extended range. Most notably, WSPR analysis conducted by Godfrey indicates a significant step climb occurring around 23:18 UTC, which coincides with this segment. It is therefore plausible that the aircraft

ascended above FL350 during this period in an effort to improve range and fuel efficiency. Given Captain Zaharie's experience and deep familiarity with the Boeing 777's capabilities, he may have attempted to maximize altitude and cruise performance by climbing closer to the aircraft's operational ceiling.

To assess whether the aircraft could realistically have covered 1,145 km (approximately 618.25 nautical miles) during this segment at altitudes near FL400, we must consider the aircraft's estimated fuel state at the time of crossing the fifth arc and its performance characteristics at that altitude. While the last ACARS message reporting fuel quantity was received at 17:07 UTC, indicating 43,800 kg on board, this occurred well before the southern leg of the flight. By the time the aircraft reached the first handshake at 18:25 UTC, fuel was estimated at 34,100 kg.

Assuming an average fuel burn of 5,760 kg/hour—a figure supported by Boeing data for cruise at FL300 and Mach 0.706—the estimated remaining fuel at the fifth arc, roughly four hours later, would be approximately 9,360 kg. Operating at FL400, the Boeing 777 can achieve a true airspeed (TAS) of around 481 knots when flying at Mach 0.843. For a lighter aircraft weight—approximately 356,000 lb gross weight, considering 9,360 kg of fuel and a dry operating weight of roughly 143,283 kg—the specific fuel consumption improves significantly. In such a configuration, the aircraft would consume approximately 4,949.5 kg/hour, based on long-range cruise performance tables. This yields an estimated endurance of 1.89 hours, translating into a theoretical range of 909.5 nautical miles, or approximately 1,684 kilometers.

This analysis confirms that the aircraft was indeed capable of flying 1,145 kilometers within this one-hour segment, assuming a step climb to FL400 and long-range cruise configuration. While the official reports generally reconstruct the southern leg of the flight at FL300, possibly for reasons of endurance and operational conservatism, the performance envelope clearly allows for a higher cruising altitude and extended range under specific circumstances. Given Zaharie's skill and the operational flexibility of the Boeing 777 at lighter weights, such a climb and performance boost is both feasible and compatible with the observed satellite data. In conclusion, although Segment 5 initially appears to exceed expected limits, a detailed fuel and performance analysis demonstrates that the aircraft could have plausibly traveled this distance, particularly in light of a step climb and optimized cruise configuration.

### ***Segment 6 [Between Handshake 5 and Log-on 2, Arcs 6 and 7]: 8 min***

The sixth and final segment measures approximately 109 kilometers, corresponding to the time between the sixth and seventh satellite handshakes. This distance aligns well with expectations, considering the segment lasted just 8 minutes and 30 seconds. While the official reconstruction assumes the aircraft maintained FL300, it is reasonable to assume that the altitude may have already started to decrease slightly during this interval, especially as fuel depletion events began to unfold.

At 00:11 UTC, the aircraft crossed the sixth arc with approximately 800 kg of fuel remaining. About one minute later, the right engine shut down due to fuel starvation. From that point forward, the left engine sustained electrical and hydraulic systems. Around 00:19 UTC—just before the seventh handshake—it is believed that the left engine was intentionally shut down. The resulting power loss

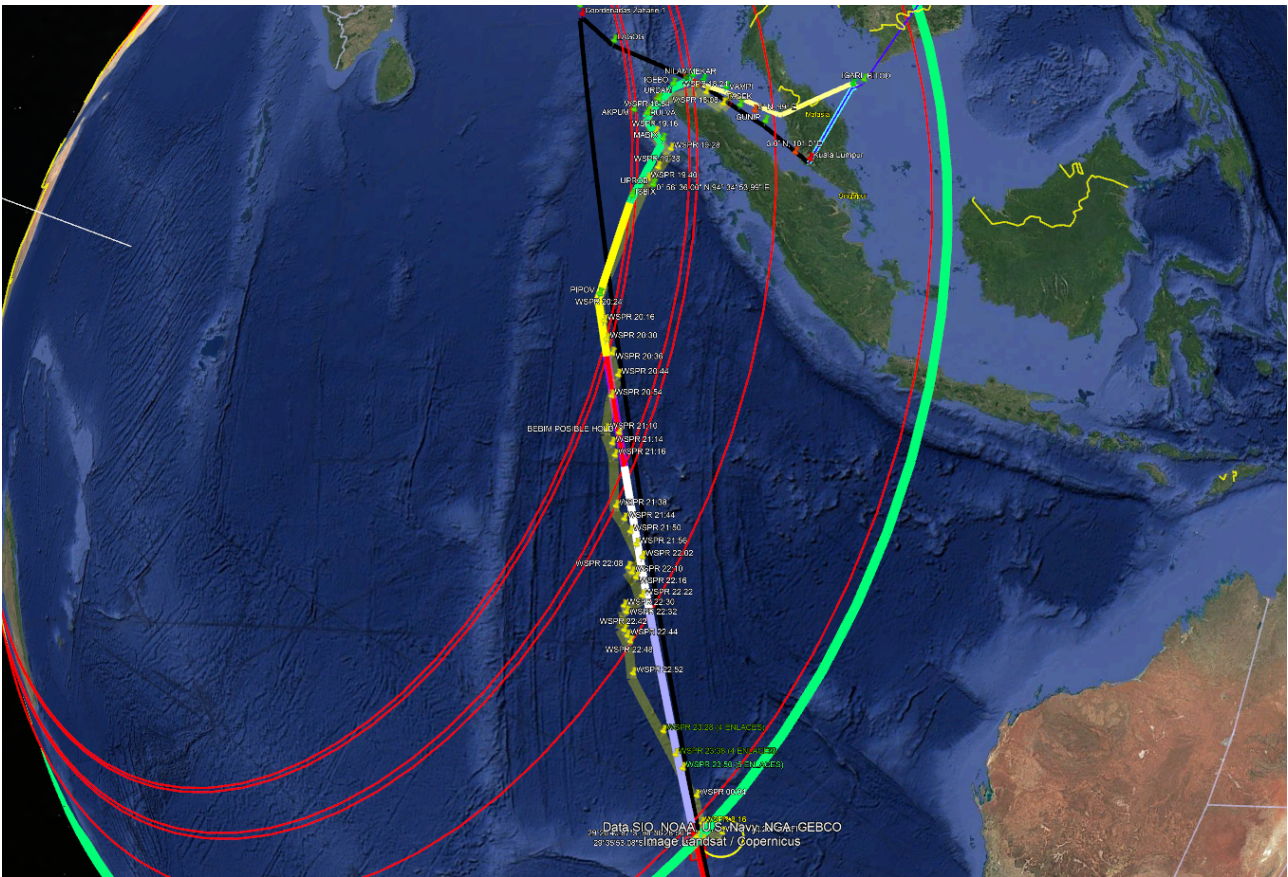
triggered the automatic start-up of the Auxiliary Power Unit (APU), which reinitiated the SATCOM system and led to the final log-on sequence at 00:19:37 UTC. This final handshake included a Burst Frequency Offset (BFO) of -2 Hz, interpreted by investigators as indicative of a high rate of descent—at least 14,500 feet per minute. However, subsequent analysis suggests that the aircraft may have recovered from the initial dive and transitioned into a controlled glide, consistent with a pilot-managed descent.

The straight-line distance of 59 nautical miles (approximately 109.3 km) traveled in this segment is fully compatible with glide performance and available energy following dual engine flameout. Boeing's flight simulations and fuel modeling confirm that the aircraft had sufficient endurance to reach the seventh arc, and the timeline aligns precisely with the expected point of fuel exhaustion. In conclusion, Segment 6 presents no anomalies.

The recorded distance, time interval, and satellite data are entirely consistent with a controlled descent following engine flameout, and with the aircraft reaching the seventh arc under a glide scenario triggered by fuel exhaustion.

**Note:** Given the limited access to professional-grade tools and the inherent uncertainty of reconstructing a flight path based on partial data, it is not possible to determine the aircraft's position between satellite arcs with complete precision. This report—like previous proposals such as those by Richard Godfrey—acknowledges that some segments of the reconstructed route appear to align reasonably well with the expected distances between arcs, within acceptable margins of error. For instance, the segment from NILAM to ISBIX reflects distances consistent with a Boeing 777 cruising under standard or slightly penalized conditions, especially when accounting for factors such as headwinds, aerodynamic inefficiencies, or depressurization scenarios. Even the segment between arcs 3 and 4, which initially appears slightly short, may be justified by a holding pattern near the waypoint BEBIM—a maneuver that would not significantly alter the overall trajectory toward the south.

Later segments become more uncertain due to the absence of nearby waypoints and the reduced resolution of WSPR data in those areas. However, assuming a southbound heading from PIPOV or ISBIX to the intended endpoint, and accepting reasonable margins of deviation and positioning error, the overall reconstructed route remains broadly compatible with available satellite data. Ultimately, it must be emphasized that the satellite arcs themselves are not instruments of pinpoint accuracy, and minor differences in their placement—combined with unknown atmospheric conditions—can easily account for observed discrepancies without invalidating the underlying theory.



**Viability and Zaharie’s Intent**

The viability of Zaharie’s plan was primarily constrained by fuel limitations. While MH370 departed with 49,200 kg—enough for roughly 6,600 km under ideal conditions—the detour via Penang consumed an additional ~13,300 kg and imposed an efficiency penalty that reduced the aircraft’s practical range to about 5,000 km. Nevertheless, the logic of the route indicates intentional planning: as a pilot with over 18,000 hours of experience, Zaharie likely followed a structured path, manually adjusting after MEKAR and relying on the same waypoints he had rehearsed in the simulator.

Taken together, this suggests the trajectory was viable as an initial plan—likely adapted from MH150—but ultimately cut short by premature fuel exhaustion. The partial alignment with WSPR detections lends further plausibility, though not conclusive proof.

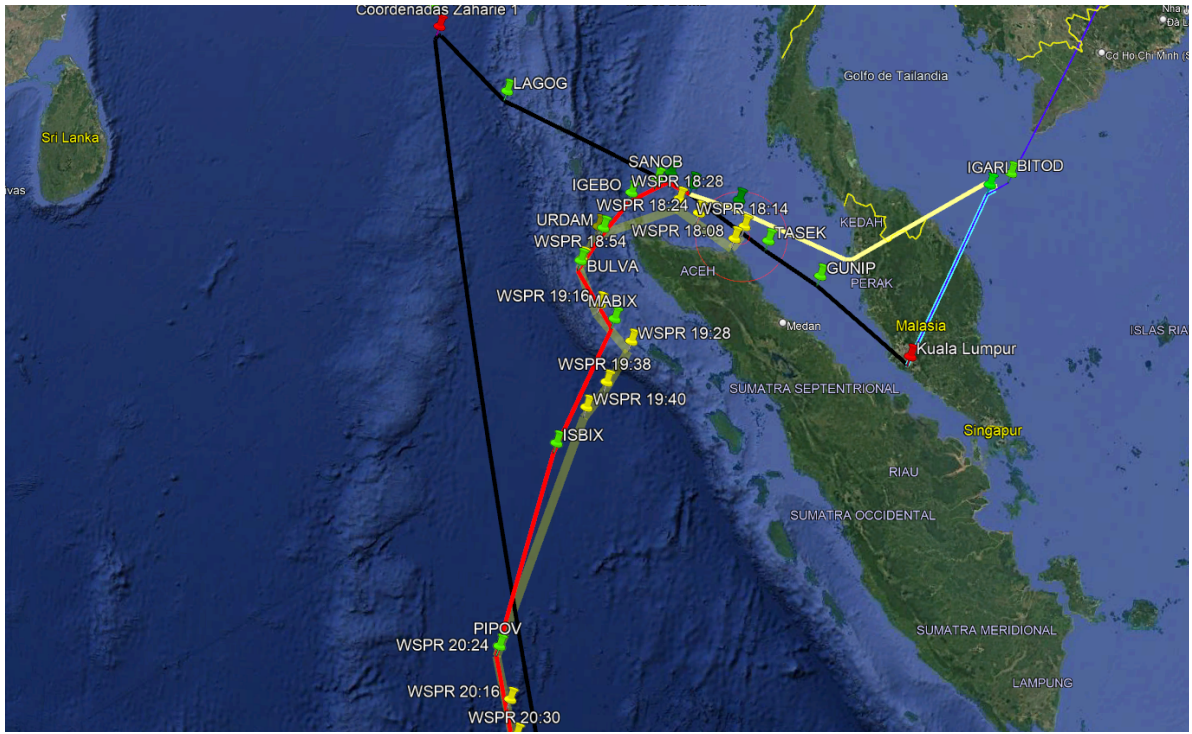


Figure 2: Proposed route (red) and WSPR suggested route (yellow). Waypoints marked in green, WSPR signals marked in yellow.

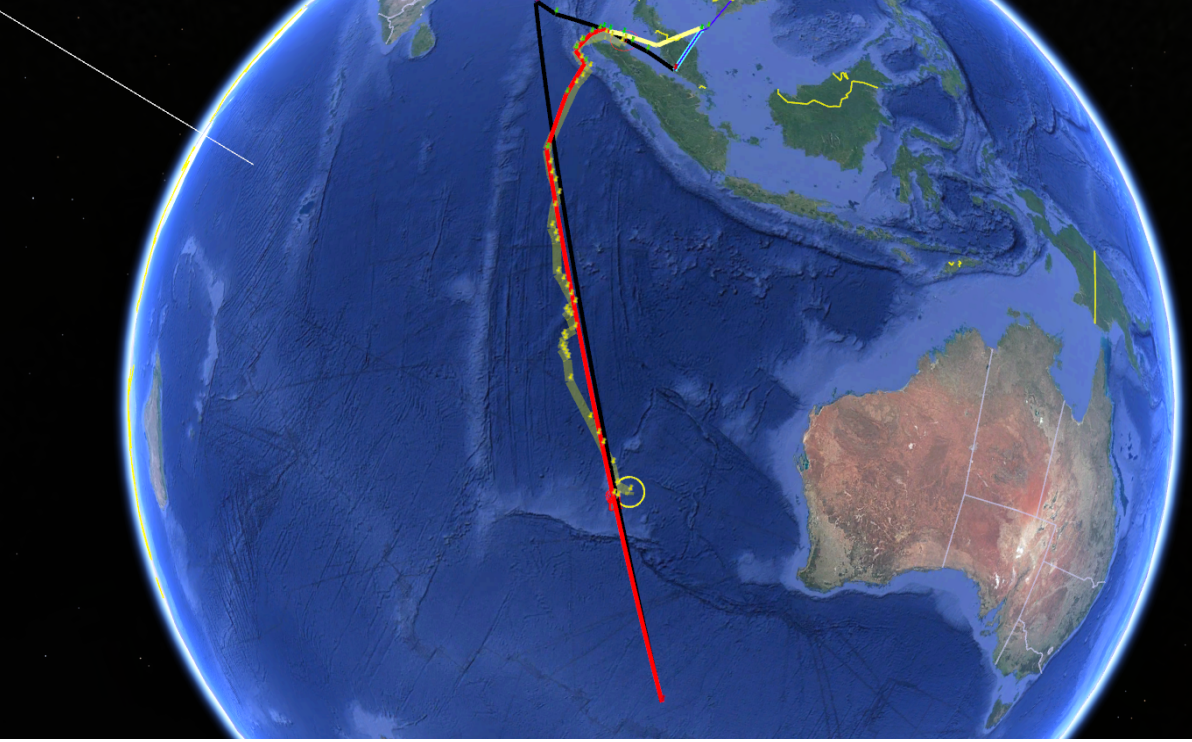


Figure 3: Simulator Path (Black), Proposed route (red) and WSPR route (yellow) together in order to compare. When viewed at scale, all the routes could point towards the South Point

## **Descent Dynamics – Official Findings**

According to analyses conducted by the ATSB and Boeing, the final moments of MH370 were characterized by a steep, uncontrolled descent following fuel exhaustion near the 7th Inmarsat arc. SATCOM Burst Frequency Offset (BFO) data from the final two transmissions—at 00:19:29 UTC and 00:19:37 UTC—suggest vertical descent rates of between 2,900 and 15,200 feet per minute as the aircraft crossed the arc, increasing sharply just eight seconds later to 13,800 to 25,300 feet per minute.

These values are inconsistent with a controlled, unpowered glide aimed at extending the aircraft's range. Instead, Boeing simulations conducted for the ATSB indicate the aircraft likely entered a descending spiral with increasing bank angle and airspeed, consistent with aerodynamic instability and the aircraft being powered only by the Ram Air Turbine (RAT). This scenario predicts a relatively confined impact area, typically within 20 to 25 km of the last arc, depending on initial bank angle and descent onset.

Additionally, debris analysis—including the discovery of the right flaperon in the retracted position—supports the assessment that no ditching or controlled water landing was attempted. Together, the data confirm that the aircraft entered a rapid, uncontrolled descent shortly after fuel exhaustion, and that the final position lies close to the 7th arc.

### 3. Refined Search Area Extended Southward

Current investigations (ATSB, Godfrey) focus eastward/southeast from the seventh arc, covering 120,000 km<sup>2</sup> (35°S–39°S, 92°E–100°E). I propose a southward extension, aligned with the simulator’s “South Point”, encompassing Godfrey’s area partially but prioritizing a narrower corridor.

#### Recalculation of Search Area

- Starting Point: 29°26'40.87"S, 98°36'28.56"E (seventh arc, 00:19 UTC).
- Direction: South, following the simulator trajectory.
- Range: 37–52 km south, with a potential extension toward 45.1°S, 104.1°E.
- Coordinates:
  - Main Search Area (~1,300km<sup>2</sup>):
    - 29°26'40.87"S, 98°36'28.56"E
    - 29°44'34.89"S, 98°41'42.66"E
    - 29°35'53.08"S, 98°55'47.85"E
    - 29°22'20.80"S, 98°57'52.99"E
    - 29°10'27.68"S, 98°49'7.82"E
  - Secondary Search Area (~3,400km<sup>2</sup>):
    - 29°42'22.08"S, 98°23'51.45"E
    - 29°56'1.30"S, 98°28'10.29"E
    - 29°53'46.47"S, 98°44'23.89"E
    - 29°47'21.79"S, 98°58'38.25"E
    - 29°38'1.16"S, 99° 5'56.67"E
    - 29° 3'25.57"S, 98°54'18.94"E
  - Extended Corridor: Toward 45.1°S, 104.1°E (~8,900km<sup>2</sup>):
    - 29°49'13.46"S, 98°17'13.92"E
    - 30°29'25.78"S, 98°26'28.48"E
    - 30°17'6.74"S, 99°17'56.74"E
    - 29° 3'3.45"S, 98°54'20.46"E

#### Comparison with Existing Searches

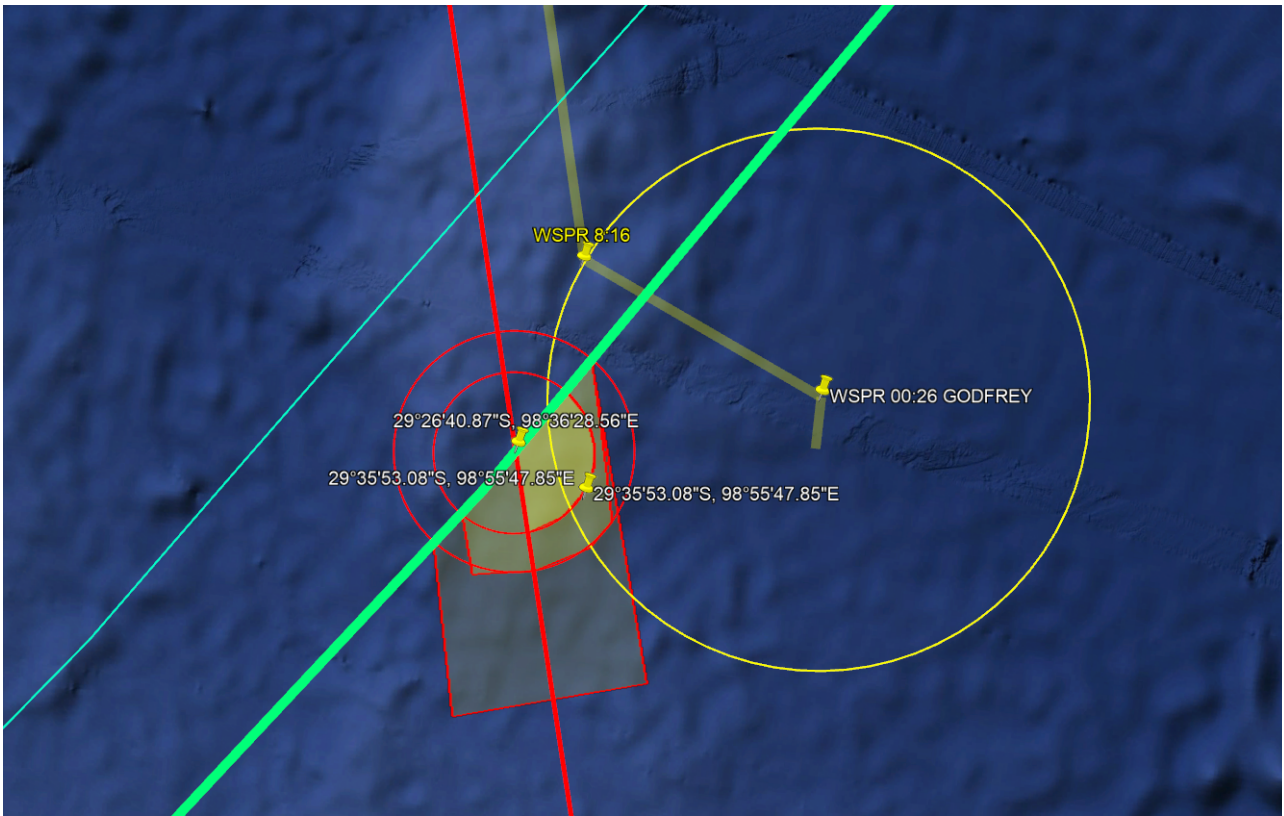
- ATSB Area: 120,000 km<sup>2</sup> southeast overlaps partially with the 100 km area (36.4°S–36.6°S, 96.8°E–97.2°E) but misses the southern extension.
- Godfrey’s Area: 117 km radius (~43,000 km<sup>2</sup>) around 00:26 UTC northeast is encompassed by the extended corridor if shifted south, though its WSPR error margin (117 km) reduces precision.

**Note:** While Boeing and ATSB data estimate the likely impact zone to lie within a 22–25 km radius from the seventh arc, this report prudently expands the primary zone to 35–50 km and proposes a secondary impact corridor. This decision accounts for potential post-impact debris dispersion, even under a coherent spiral descent.

As an illustrative precedent, the debris field of the RMS Titanic—a more rigid structure with less kinetic energy—extended up to 5×8 km (40 km<sup>2</sup>), due to in-flight breakup and different descent dynamics. The bow, for example, advanced aerodynamically, while the stern descended chaotically. For MH370, a high-speed impact may have caused certain sections to drift along the seabed or break off upon contact, resulting in a debris field stretching several kilometers. Considering the bathymetric complexity of the Indian Ocean floor, such dispersion is plausible. Therefore, this expanded area does not contradict Boeing or ATSB findings but reflects a conservative approach to ensure coverage of all realistic impact scenarios.

## **Plausibility**

The southward direction aligns with the simulator’s “South Point” and WSPR’s 00:26 UTC point. A fall of 35–50 km post-00:19 UTC is realistic, supported by fuel estimates (730 km range). The eastward focus lacks simulator evidence, making the southern corridor more compelling. Regarding the search areas here proposed: Based on available data, neither the primary nor secondary search areas have been explored in the underwater searches conducted by the ATSB (2014–2017) or Ocean Infinity (2018, 2025), which focused south of 30°S. The 2014 AMSA surface search likely included these latitudes, but its visual nature offers no conclusive exploration. The proximity to Godfrey’s WSPR estimate suggests potential, though its accuracy remains unproven. Both areas appear underexplored, warranting a targeted sonar survey.



*Figure 4: Main Search Area (small yellow), secondary Search Area (medium yellow) and extended corridor towards the South, in contrast with Godfrey's suggested area*

## Final Remarks

This theory connects the simulator's "South Point" with MH370's disappearance by tracing an adapted version of the MH150 route, for which Zaharie had both operational experience and a simulated trajectory. The path reflected in the coordinates aligns with known FIR transitions and mirrors the departure structure of MH150, which he flew just over a month earlier. However, MH370's unexpected detour via Penang introduced a significant fuel penalty, making the "South Point" unreachable under MH370's fuel load. Despite this, evidence suggests the aircraft continued southward after waypoint MEKAR, likely following a manually flown route consistent with the simulator's intent. Analysis of the Inmarsat arcs and WSPR signal anomalies indicates that the aircraft continued on this heading until fuel exhaustion near the 7th arc. The refined search area proposed—centered on 29°30'S, 98°50'E—remains unscanned by sonar and lies within the aircraft's final glide capabilities, assuming a power-off descent pattern supported by Boeing and ATSB data. Given the convergence of fuel data, route alignment, and simulator intent, this zone merits further exploration, and reviewing historical MH150 flight data may offer additional insight into the plan's origin.

**Note about the theory:** This report does not claim to introduce a completely novel theory. Elements such as the turn after IGARI, the potential role of MH150 as a reference point, or the possibility of a controlled flight into the southern Indian Ocean have been previously discussed by independent researchers. We acknowledge the important contributions of Richard Godfrey, Victor Iannello, and others, whose work has helped maintain public interest and technical rigor in the search for MH370. However, we respectfully diverge from some key interpretations and our approach favors a scenario involving conscious, progressive decision-making by the captain and a sustained flight path that adheres to known waypoints and aircraft performance limits. Rather than discarding earlier research, we aim to refine and realign it with data that has often been overlooked or underestimated.

**Important Disclaimer – On Intent and Attribution:** This report does not aim to accuse or assign definitive responsibility to any individual. The analysis presented is based solely on publicly available data—including simulator records, flight performance, and satellite telemetry—and seeks only to identify a plausible search area through operational and navigational logic. While the evidence suggests potential alignment between the simulated route and MH370's adapted trajectory, this should not be interpreted as a judgment of character or motive. Psychological, personal, or external factors—if any—remain beyond the scope of this analysis. The sole objective of this investigation is to support future search efforts and contribute constructively to solving one of the most significant aviation mysteries of our time.

Sincerely,  
Pedro Carvalho, Luda Merino



## References:

Documents and papers:

- Official investigation report on the MH370 case:  
[https://pedrocarvalho.es/docs/20140308\\_B772\\_9M-MRO.pdf](https://pedrocarvalho.es/docs/20140308_B772_9M-MRO.pdf)
- ICAO Annex 13: [https://pedrocarvalho.es/docs/ICAO\\_Annex-13\\_Thirteenth\\_Edition\\_July\\_2024-1.pdf](https://pedrocarvalho.es/docs/ICAO_Annex-13_Thirteenth_Edition_July_2024-1.pdf)
- Original Inmarsat technical document explaining the analysis of Burst Timing Offsets (BTO) and Burst Frequency Offsets (BFO) used to estimate trajectory:  
<https://pedrocarvalho.es/docs/inmarsat-the-search-for-mh370.pdf>
- ICAO Air Navigation Manual: <https://pedrocarvalho.es/docs/ICAO-BasedNavigationManual.pdf>
- Boeing 777 Aircraft Communications System Description Manual (CSM):  
<https://pedrocarvalho.es/docs/Boeing-777-FCOM.pdf>
- Digital data behind ATSB 'MH370 path' from take-off in Kuala Lumpur until radar coverage loss at 18:22 UTC: <https://pedrocarvalho.es/docs/Digital-radar-data-KLumpur-LSTRP-analysis.pdf>
- Analysis of the trajectory of Flight MH370: <https://pedrocarvalho.es/docs/3-known-trajectory-and-recalculated-trajectory.pdf>
- Bayesian Methods in the Search for MH370 (pp.19-22):  
[https://pedrocarvalho.es/docs/Aircraft\\_Prior\\_Based\\_on\\_Primary\\_Radar\\_Data.pdf](https://pedrocarvalho.es/docs/Aircraft_Prior_Based_on_Primary_Radar_Data.pdf)
- Report on the search for MH370: [https://pedrocarvalho.es/docs/operational-search-for-mh370\\_final\\_3oct2017.pdf](https://pedrocarvalho.es/docs/operational-search-for-mh370_final_3oct2017.pdf)
- Analysis of Flight MH370 according to WSPR:  
<https://pedrocarvalho.es/docs/WSPR%20report.pdf>
- Analysis of how WSPR works in aircraft detection:  
<https://pedrocarvalho.es/docs/WSPR%20report.pdf>

## Websites:

- Pedro Carvalho's website: [mh370.pedrocarvalho.es](http://mh370.pedrocarvalho.es)
- Richard Godfrey's website: [www.mh370search.com](http://www.mh370search.com)
- Victor Iannello's website: [mh370.radiantphysics.com/](http://mh370.radiantphysics.com/)



