

CASE FILE 29 / 237UAP00613

237UAP00613

Radar/correlation-focused public UAP report; score 66

NORMAL-OBJECT FAVORED

REPORT NO.	UAP-OM-29-237UAP00613	DISPOSITION	NORMAL-OBJECT FAVORED
PRIMARY CASE	237UAP00613	GENERATED	2026-05-20 18:32 UTC
REPORT TIME	2024-02-20T09:27:00+00:00	OBSERVER	28.08999, -85.26925
SOURCE CASE IDS	237UAP00613		

Abstract

This case file evaluates a reported UAP sighting against historical Starlink orbital elements. The primary external-object candidate is a 4-object same-launch group from 2024-02-10, spanning azimuth 52.16-68.98 deg and elevation 11.09-33.35 deg. The analysis distinguishes plausible geometric overlap from unresolved witness-language features.

This is a standalone independent analysis prepared from public-source records and public orbital datasets. It is not an official government determination, classification marking, or agency-authored report.

1. Executive Summary

237UAP00613 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N77530 B738 aa7e74 at 25.0 km, azimuth 31.4 deg, elevation 25.31 deg, 5.58 min from report. Dense satellite presence alone is not treated as causation in this packet.

1.1 Key Findings

- Source score 66 based on: radar/primary-return language, high-altitude report, maneuvering/motion anomaly, UAP/UFO language.
- Report time used: 2024-02-20T09:27:00+00:00.
- External object layer used: Starlink.
- Disposition standard: NORMAL-OBJECT requires case-specific causal fit. Satellite density above the horizon is context only and cannot by itself resolve the report.
- Case-specific ordinary-object evidence: strong ADS-B aircraft candidate N77530 B738 aa7e74 at 25.0 km, azimuth 31.4 deg, elevation 25.31 deg, 5.58 min from report.
- Non-causal context / rejection screens: substantial orbital-object sky background; context only, not causation.
- Remaining hard features: hard maneuver language.
- Objects above horizon: 246; at/above 10 deg: 101.
- Top compact same-launch/designator group: 4 objects from 2024-02-10.
- No explicit Starlink/balloon wording was found in the source excerpt used for ranking.

1.2 Bottom Line

NORMAL-OBJECT FAVORED: A case-specific ordinary-object candidate exists from source language, orbital geometry, launch-object context, or compact trajectory grouping. Dense ordinary sky traffic alone is not treated as causation.

2. Source Control

The source-control table identifies the public report records reviewed for this case and lists public access links where available. The table is included so this PDF remains interpretable when distributed by itself.

CASE ID	REPORT DATE FIELD	FACILITY / TITLE	TEXT EXTRACT	PUBLIC PDF LINK
237UAP00613	2/20/2024 3:27:00 AM (-06 CST)	AAL2054 UFO-UAP ACTIVITY 02-20-2024	text extract present	237UAP00613.pdf

3. Original Report Evidence

PRIMARY EXCERPT USED FOR MATCHING	Washington Operations Center Date: 2/20/2024 3:27:00 AM (-06 CST) Title: AAL2054 UFO-UAP ACTIVITY 02-20-2024 Latitude: 28.089988000000002 Latitude: -85.269249070000001 DESCRIPTION PRELIM INFO FROM FAA OPS: CRESTVIEW, FL/UFO-UAP ACTIVITY/0404C/JACKSONVILLE ARTCC ADVISED AMERICAN 2054, B38M, PHX - MIA, REPORTED AN UNIDENTIFIED AERIAL PHENOMENON OFF LEFT SIDE WHILE SE BOUND AT FL370 200 SSE CEW. THE PHENOMENON APPEARED AS THREE WHITE LIGHTS MAKING TIGHT SPIRALS AT FL450. THE UAP WAS NOT OBSERVED BY ATC RADAR. WOC 7-3333 RL/JW
REPORT TIME USED	2024-02-20T09:27:00+00:00
OBSERVER COORDINATE USED	28.08999, -85.26925
OBSERVER SOURCE BASIS	(public text extract 237UAP00613)

4. Methodology

- Spacetime extraction.** The report time and observer coordinate were extracted from the public text report and normalized to UTC. Aviation fixes/radials were resolved during earlier preprocessing where applicable.
- External object dataset.** The object layer used historical Space-Track/TLE-derived Starlink element rows. The analytic mode for this case is historical Starlink element propagation and same-launch/designator sky grouping.
- Propagation.** Orbital elements were propagated to the report minute and observer location. For launch-object checks, samples around the report minute were retained. For Starlink group checks, objects above the horizon were clustered by sky position and filtered for same-launch groupings.
- Comparison.** The output was compared against the report's count of lights, direction cue, motion language, altitude/radar language, and whether the file itself already suggested a satellite explanation.
- Causation standard.** Mere object presence above the horizon is treated as background context only. A normal-object disposition requires a case-specific causal fit, such as a named launch object, a compact same-launch trajectory group, or source language that directly supports that object class.
- Disposition assignment.** *Identified* means a specific normal object fits the report spacetime and the hard reported features do not materially conflict. *Normal-object favored* means a case-specific ordinary aerospace/orbital candidate exists, but it is not a full named identification. *Insufficient* means the file is too thin to carry high anomaly value. *High-value unresolved* is used when radar, video, rapid maneuver, or multi-witness features remain after reasonable normal-object checks.

5. External Object Evidence

5.1 Search Volume and Density

This table is a screening layer only. Objects above the horizon show background opportunity; they do not establish causation unless a specific object or compact trajectory group matches the reported behavior.

STARLINK CATALOG IDS CONSIDERED	5458	HISTORICAL ELEMENT ROWS	5431
ABOVE HORIZON AT REPORT MINUTE	246	AT/ABOVE 10 DEG	101
LARGEST SAME-SKY CLUSTER	51		

5.2 Same-Launch / Same-Designator Candidate Groups

#	LAUNCH DATE	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS	MEMBERS
1	2024-02-10	4	52.16-68.98 deg	11.09-33.35 deg	westward, setting	STARLINK-31337, STARLINK-31350, STARLINK-31362, STARLINK-31383

5.3 Primary Group Members

OBJECT	NORAD	LAUNCH	AZ	EL	RANGE KM	APPARENT MOTION	ELEMENT AGE H
STARLINK-31337	58934	2024-02-10	68.98	33.35	591.52	westward, setting	10.55
STARLINK-31350	58933	2024-02-10	59.84	22.96	781.74	westward, setting	10.55
STARLINK-31362	58935	2024-02-10	55.09	16.07	995.06	westward, setting	10.55
STARLINK-31383	58936	2024-02-10	52.16	11.09	1225.77	westward, setting	10.55

5.4 Bright-Sky Context: Top Starlink Objects by Elevation

OBJECT	AZ	EL	RANGE KM	APPARENT MOTION	LAUNCH DATE
STARLINK-6179	171.3	67.16	602.81	westward, setting	2023-06-12
STARLINK-4755	11.62	58.95	622.54	eastward, setting	2022-09-19
STARLINK-30453	144.37	56.26	660.7	westward, setting	2023-09-20
STARLINK-31317	141.09	55.45	411.47	westward, setting	2024-02-10
STARLINK-31169	100.86	54.89	587.0	eastward, setting	2024-01-15
STARLINK-3397	154.02	54.58	650.1	westward, setting	2022-01-19
STARLINK-5568	289.72	53.8	679.63	westward, setting	2023-01-26
STARLINK-3890	130.99	50.55	682.11	westward, setting	2022-05-06
STARLINK-1838	126.44	50.05	695.45	eastward, setting	2020-11-25
STARLINK-1631	32.77	48.71	708.86	eastward, setting	2020-08-18
STARLINK-31378	92.22	48.65	448.29	westward, setting	2024-02-10
STARLINK-1414	306.39	45.67	739.85	eastward, setting	2020-06-04

5.5 Largest Sky Clusters

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
1	51	2.45-358.77 deg	10.19-39.83 deg	eastward, level, eastward, rising, eastward, setting, westward, setting
2	15	237.48-285.78 deg	10.26-39.44 deg	

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
				eastward, rising, westward, rising, westward, setting
3	9	142.59-184.46 deg	10.4-24.53 deg	westward, rising, westward, setting
4	7	301.23-319.89 deg	11.28-18.77 deg	eastward, rising, eastward, setting, westward, rising
5	6	209.79-229.42 deg	10.77-30.4 deg	eastward, rising, westward, rising, westward, setting

5.6 Space-Track SATCAT Enrichment

Space-Track SATCAT metadata was pulled as a cached subset for NORAD catalog IDs appearing in this packet's evidence tables. This section adds owner/type/status context to the propagated object candidates.

PACKET SATCAT SUBSET ROWS	5370	FETCHED	2026-05-19T01:19:50+00:00
THIS CASE NORAD IDS CHECKED	33	SATCAT ROWS MATCHED	33
TOP OWNERS	US: 33		
OBJECT TYPES	PAYLOAD: 33		

5.7 Space-Track Metadata for Top Propagated Objects

NORAD	OBJECT NAME	TYPE	OWNER	LAUNCH DATE	DECAY DATE
56910	STARLINK-6179	PAYLOAD	US	2023-06-12	n/a
53851	STARLINK-4755	PAYLOAD	US	2022-09-19	n/a
57910	STARLINK-30453	PAYLOAD	US	2023-09-20	n/a
58931	STARLINK-31317	PAYLOAD	US	2024-02-10	n/a
58809	STARLINK-31169	PAYLOAD	US	2024-01-15	n/a
51115	STARLINK-3397	PAYLOAD	US	2022-01-19	n/a
55372	STARLINK-5568	PAYLOAD	US	2023-01-26	n/a
52455	STARLINK-3890	PAYLOAD	US	2022-05-06	n/a
47129	STARLINK-1838	PAYLOAD	US	2020-11-25	2025-05-08
46151	STARLINK-1631	PAYLOAD	US	2020-08-18	2025-06-06
58932	STARLINK-31378	PAYLOAD	US	2024-02-10	n/a
45690	STARLINK-1414	PAYLOAD	US	2020-06-04	2025-04-08

5.9 NASA / NOAA / ADS-B Expansion Layer

This source layer adds free NASA context that was previously missing from most packet cases. It is contextual evidence; it does not replace aircraft, satellite, balloon, or radar causation tests.

HOOR UTC	2024022009
CLOUD AMOUNT	0.85%
PRECIPITATION	0.0 mm/hr
10 M WIND	3.82 m/s
TEMPERATURE	17.64 C
RELATIVE HUMIDITY	58.03%
DONKI +/-1 DAY	CME: unavailable; FLR: unavailable; GST: unavailable; HSS: unavailable; IPS: unavailable; MPC: unavailable; RBE: unavailable; SEP: unavailable; WSAEnliSimulations: unavailable

5.10 Horizons Sky Geometry Context

OBJECT	AZ	EL	APP MAG
Sun	82.37	-37.67	-26.77
Moon	298.38	4.63	-11.44
Venus	102.92	-18.03	-3.91
Mars	102.92	-19.16	1.28
Jupiter	343.75	-46.99	-2.23
Saturn	76.23	-43.78	0.98

- Sun elevation was -37.7 deg, so this was a dark-sky/nighttime sighting.
- Moon was above horizon at azimuth 298.4 deg / elevation 4.6 deg.
- No checked bright planets were above the horizon at the primary coordinate/time.
- NASA POWER cloud amount for the hour was 0.85%, with precipitation 0.0 mm/hr.

5.11 Free Source Availability and Remaining Work

LAYER	STATUS	CASE-SPECIFIC NOTE
ADSB.LOL HISTORICAL RELEASE LISTING	screened/present	planes-readsb-staging-0 1756.0 MiB; planes-readsb-prod-0 1758.0 MiB
ADSB TRACKS DOWNLOADED	not yet exhausted	Requires targeted extraction from large daily history archives before claiming aircraft exhaustion.
NOAA GOES IMAGERY	not yet exhausted	Needed for cloud/lightning visual context.
NOAA GOES ABI/GLM MANIFEST	screened/present	Public S3 object availability for the report hour.
NOAA NEXRAD WEATHER RADAR	not yet exhausted	Weather radar only; not ATC radar.
NOAA IGRA RADIOSONDE	screened/present	Needed for balloon drift plausibility.
ASOS/METAR WEATHER OBSERVATIONS	screened/present	Nearest station surface observations around report time.

- ADSB.lol historical: extract aircraft traces from adsblol/globe_history_2024 for 2024-02-20, then filter +/-60 min and 250 nmi around 27.7407,-85.2395.
- NASA POWER/Horizons/DONKI: batch context for 237UAP00613 at 2024-02-20T09:27:00+00:00.
- NOAA GOES: pull nearest ABI/GLM products for the UTC hour and render cloud/lightning map.
- NOAA NEXRAD: select nearest radar stations and render Level-II/III weather radar sweep around event time.
- NOAA IGRA: find nearest radiosonde station launches bracketing the event and model wind drift for balloon-like descriptions.
- Space-Track gp_history/decay: fetch exact historical element rows and decay/reentry status for top candidate NORAD IDs.

5.12 Weather, Imagery, and Balloon Query Plan

This plan identifies the concrete free sources needed for the next case-specific weather and balloon checks. These are not treated as completed exclusions until the data are downloaded and plotted.

GOES SATELLITE	GOES16
GOES ABI PREFIX	https://noaa-goes16.s3.amazonaws.com/ABI-L2-CMIPF/2024/051/09/
GOES GLM LIGHTNING PREFIX	https://noaa-goes16.s3.amazonaws.com/GLM-L2-LCFA/2024/051/09/

5.13 Nearest Weather-Airport Candidates

STATION	NAME	DISTANCE KM	COORDINATE
KPIE	St. Petersburg Clearwater International Airport	251.70	27.91, -82.69
KPAM	Tyndall Air Force Base	261.00	30.07, -85.58
KTPA	Tampa International Airport	267.30	27.98, -82.53
KSRQ	Sarasota Bradenton International Airport	267.40	27.39, -82.55

STATION	NAME	DISTANCE KM	COORDINATE
KMCF	MacDill Air Force Base	267.70	27.85, -82.52

- KPIE: [IEM ASOS/METAR daily CSV query](#)
- KPAM: [IEM ASOS/METAR daily CSV query](#)
- KTPA: [IEM ASOS/METAR daily CSV query](#)

5.14 Nearest Radiosonde Stations

STATION	NAME	DISTANCE KM	COORDINATE
USM00072210	TAMPA BAY AREA; FL.	279.50	27.71, -82.40
USM00072214	TALLAHASSEE/MUN.; FL.	314.40	30.45, -84.30
USM00072221	VALPARAISO/EGLIN AFB; FL.	329.20	30.48, -86.52
USM00072206	JACKSONVILLE/INTNL.; FL.	459.50	30.48, -81.70
USM00074794	CAPE KENNEDY	467.00	28.47, -80.55

5.15 ASOS/METAR Surface Weather Observations

surface visibility ranged 10-10 statute miles; no precipitation was reported in the retained observations; no low broken/overcast cloud ceiling was evident in the retained station observations. Surface ASOS/METAR observations describe airport-level weather and visibility; they do not by themselves prove conditions at the sighting altitude or line of sight.

STATION	DISTANCE KM	NEAREST OBS UTC	VIS SM	SKY	WIND DEG/KT	METAR
KPIE	251.70	2024-02-20T09:53:00 +00:00	10.00	CLR, M, M, M	20.00 / 3.00	KPIE 200953Z AUTO 02003KT 10SM CLR 11/10 A3022 RMK AO2 SLP233 T01060100
KPAM	261.00	2024-02-20T09:55:00 +00:00	10.00	CLR, M, M, M	340.00 / 6.00	KPAM 200955Z AUTO 34006KT 10SM CLR 07/04 A3023 RMK AO2 SLP240 T00720036 FZRANO \$
KTPA	267.30	2024-02-20T09:53:00 +00:00	10.00	CLR, M, M, M	30.00 / 3.00	KTPA 200953Z 03003KT 10SM CLR 09/06 A3022 RMK AO2 SLP234 T00890061

5.16 NOAA IGRA Radiosonde Wind Profile

Nearest sounding implies mean 0-12 km wind drift toward 119.0 deg at 14.83 m/s; a passive balloon could drift about 106.7 km in two hours under this crude layer-average model. Radiosonde winds are sparse station soundings; balloon drift remains approximate without launch time, ascent rate, object altitude, and exact line-of-sight bearing.

STATION	NAME	DISTANCE KM	SOUNDING UTC	MEAN DRIFT BEARING	MEAN SPEED M/S	2H DRIFT KM	MAX WIND
USM00072210	TAMPA BAY AREA; FL.	279.50	2024-02-20T12:00 :00+00:00	119.00	14.83	106.70	57.10 at 12090.00 m

5.17 NOAA GOES ABI/GLM Public File Manifest

GOES public S3 objects are listed for the report hour where available. This is an availability manifest, not yet a rendered satellite image.

SATELLITE	GOES16	BUCKET	noaa-goes16
ABI SAMPLE FILES	12	GLM SAMPLE FILES	12

ABI sample objects:

- [ABI-L2-CMIPF/2024/051/09/OR_ABI-L2-CMIPF-M6C01_G16_s20240510900205_e20240510909513_c20240510909567.nc](#)
- [ABI-L2-CMIPF/2024/051/09/OR_ABI-L2-CMIPF-M6C01_G16_s20240510910205_e20240510919513_c20240510919577.nc](#)
- [ABI-L2-CMIPF/2024/051/09/OR_ABI-L2-CMIPF-M6C01_G16_s20240510920205_e20240510929513_c20240510929570.nc](#)
- [ABI-L2-CMIPF/2024/051/09/OR_ABI-L2-CMIPF-M6C01_G16_s20240510930205_e20240510939513_c20240510939574.nc](#)

GLM lightning sample objects:

- [GLM-L2-LCFA/2024/051/09/OR_GLM-L2-LCFA_G16_s20240510900000_e20240510900200_c20240510900216.nc](#)
- [GLM-L2-LCFA/2024/051/09/OR_GLM-L2-LCFA_G16_s20240510900200_e20240510900400_c20240510900416.nc](#)
- [GLM-L2-LCFA/2024/051/09/OR_GLM-L2-LCFA_G16_s20240510900400_e20240510901000_c20240510901015.nc](#)
- [GLM-L2-LCFA/2024/051/09/OR_GLM-L2-LCFA_G16_s20240510901000_e20240510901200_c20240510901215.nc](#)

5.18 ADSB.lol Historical Aircraft Track Extraction

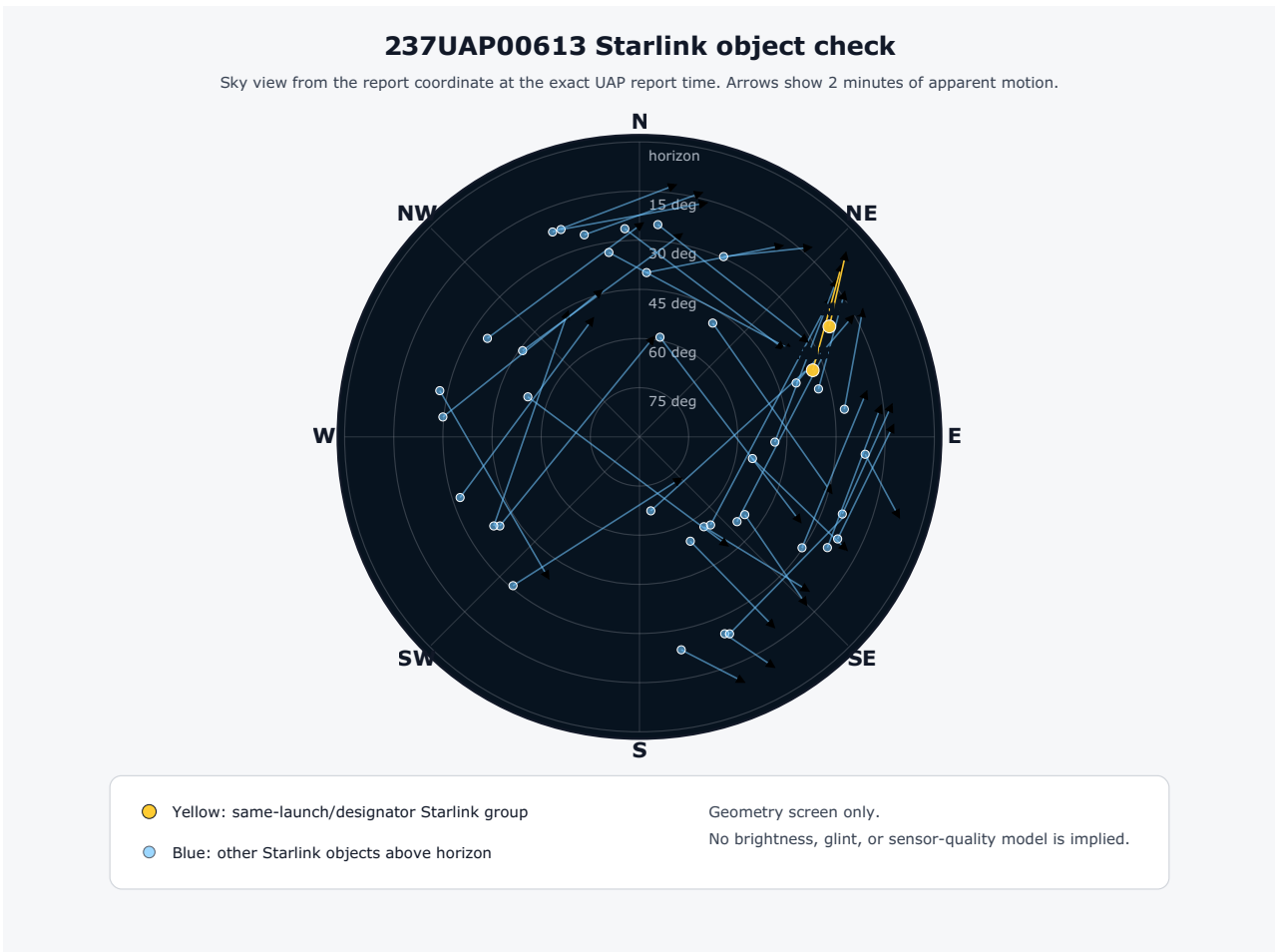
This layer uses the downloaded ADSB.lol daily history archive to test actual aircraft tracks near the report coordinate and minute. It is not treated as a primary-radar substitute; it is a transponder/receiver-derived aircraft screen.

ARCHIVE WINDOW	2024-02-20T08:27:00+00:00 to 2024-02-20T10:27:00+00:00	RADIUS	250.00 nmi
TRACE FILES SCANNED	54306	TRACKS RETAINED	129
SUPPORT STATUS	aircraft strong candidate present	BEST-CANDIDATE NOTE	ordinary-object favored if the report's count, color, direction, and motion can be reconciled with the candidate track(s).
STRONG CANDIDATES	5	PLAUSIBLE CANDIDATES	10
REPORTING-AIRCRAFT TRACKS EXCLUDED	2	WEAK CANDIDATES	13

5.19 Top ADS-B Candidate Tracks

AIRCRAFT	STATUS	SCORE	MIN DIST KM	NEAREST DT MIN	ALT FT	AZ	EL
N77530 B738 aa7e74	strong aircraft candidate	80.41	25.00	0.15	39000	31.40	25.31
N934NK A20N acf5bb	strong aircraft candidate	79.00	50.80	0.13	37000	202.60	12.27
N318DX A321 a364ea	strong aircraft candidate	76.23	55.70	0.09	33700	40.20	9.78
N532DN A21N a6b833	strong aircraft candidate	75.27	47.90	0.09	35000	225.90	11.67
N503DZ A21N a64578	strong aircraft candidate	66.01	19.60	0.00	15175	76.40	10.73
N422AN A21N a5031a	reporting aircraft track; excluded from support counts	95.37	3.80	0.13	34975	204.20	70.23
N904NK A20N ac7f3e	reporting aircraft track; excluded from support counts	85.40	9.40	0.22	37000	215.60	50.12
N423AN A21N a506d1	plausible aircraft candidate	74.80	2.30	0.08	23125	88.70	76.37

6. Annotated Evidence Figure



Generated figure copied from the local evidence-plot output. It is included as an analytic visualization, not as original sensor imagery.

7. Analytic Comparison

CRITERION	REPORT EVIDENCE	ANALYTIC TREATMENT
TIME CONSTRAINT	2024-02-20T09:27:00+00:00	Directly used in propagation; this is a hard filter, not descriptive context.
LOCATION CONSTRAINT	28.08999, -85.26925	Directly used as observer point for azimuth/elevation/range computation.
COUNT / PATTERN	three-object/light language present	Primary same-launch group contains 4 propagated objects in a compact sky sector.
MOTION LANGUAGE	not explicit	Apparent motion labels in the object table provide a plausible but not definitive comparison.
RADAR / OFFICIAL CHECK	not observed on ATC radar	No ATC radar return can be consistent with distant orbital objects or visual aircraft-light hypotheses, but it does not prove the match.
ANALYTIC DISPOSITION	normal-object	237UAP00613 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N77530 B738 aa7e74 at 25.0 km, azimuth 31.4 deg, elevation 25.31 deg, 5.58 min from report. Dense satellite presence alone is not treated as causation in this packet.

8. Caveats, Limitations, and Collection Gaps

- No raw cockpit video, ATC replay, radar plot, or witness interview transcript was reviewed unless explicitly stated in the public source text.
- Aviation-derived coordinates can represent a nearby fix/radial or report point, not necessarily the actual line-of-sight intercept point.
- Starlink visibility depends on illumination, observer altitude, atmospheric conditions, and apparent brightness; this analysis tests geometry, not photometry. No brightness model is used unless explicitly stated elsewhere in the case file.
- TLE propagation is appropriate for screening and reconstruction but is not a substitute for authoritative operational ephemerides.
- When many satellites are above the horizon, generic presence is weak evidence and is not treated as causation. The report emphasizes named launch-object checks or compact same-launch trajectory groups.
- Normal-object favored is not the same as a perfect named-object identification; it requires a case-specific ordinary-object candidate stronger than simple object density.

Appendix A. Public Report Text Extracts

237UAP00613

Washington Operations Center

Date: 2/20/2024 3:27:00 AM (-06 CST)
Title: AAL2054 UFO-UAP ACTIVITY 02-20-2024
Latitude: 28.089988000000002 Latitude: -85.269249070000001

DESCRIPTION

PRELIM INFO FROM FAA OPS: CRESTVIEW, FL/UFO-UAP ACTIVITY/0404C/JACKSONVILLE ARTCC ADVISED AMERICAN 2054, B38M, PHX - MIA, REPORTED AN UNIDENTIFIED AERIAL PHENOMENON OFF LEFT SIDE WHILE SE BOUND AT FL370 200 SSE CEW. THE PHENOMENON APPEARED AS THREE WHITE LIGHTS MAKING TIGHT SPIRALS AT FL450. THE UAP WAS NOT OBSERVED BY ATC RADAR. WOC 7-3333 RL/JW

Appendix B. Computational Evidence Digest

This appendix preserves the principal computed values used in the assessment, shortened to the fields most relevant to audit and review.

```
{
  "report_time_utc": "2024-02-20T09:27:00+00:00",
  "source_excerpt": "Washington Operations Center\n\n\n\nDate: 2/20/2024 3:27:00 AM (-06 CST)\nTitle: AAL2054 UFO-UAP\nACTIVITY 02-20-2024\nLatitude: 28.089988000000002\nLongitude: -85.269249070000001\n\n\n\nDESCRIPTION\n\nPRELIM INFO FROM FAA OPS: CRESTVIEW, FL/UFO-UAP ACTIVITY/0404C/JACKSONVILLE ARTCC\nADVISED\nAMERICAN 2054, B38M, PHX - MIA, REPORTED AN UNIDENTIFIED AERIAL PHENOMENON OFF LEFT SIDE WHILE SE\nBOUND AT FL370 200\nSSE CEW. THE PHENOMENON APPEARED AS THREE WHITE LIGHTS MAKING TIGHT SPIRALS\nAT FL450. THE UAP WAS NOT OBSERVED BY ATC RADAR.\nWOC 7-3333 RL/JW",
  "historical_starlink_element_rows": 5431,
  "observer": {
    "lat": 28.089988,
    "lon": -85.26924907,
    "source": "(public text extract 237UAP00613)"
  },
  "case_id": "237UAP00613",
  "starlink_above_horizon_at_report_time": 246,
  "starlink_catalog_ids_considered": 5458,
  "largest_same-sky_cluster_count": 51,
  "starlink_at_or_above_10_deg": 101,
  "same_launch_sky_groups": [
    {
      "azimuth_range_deg": [
        52.16,
        68.98
      ],
      "count": 4,
      "elevation_range_deg": [
        11.09,
        33.35
      ],
      "ground_track_labels": [
        "NE"
      ],
      "launch_date": "2024-02-10",
      "members": [
        {
          "azimuth_deg": 68.98,
          "azimuth_plus_2m_deg": 49.64,
          "azimuth_plus_5m_deg": 44.61,
          "element_age_hours": 10.55,
          "element_epoch": "2024-02-20T20:00:01.000224+00:00",
          "elevation_deg": 33.35,
          "elevation_plus_2m_deg": 8.98,
          "elevation_plus_5m_deg": -3.89,
          "epoch_altitude_km": 352.12,
          "ground_track_bearing_deg": 41.2,
          "ground_track_label": "NE",
          "launch_date": "2024-02-10",
          "name": "STARLINK-31337",
          "norad_id": "58934",
          "range_km": 591.52,
          "sky_motion_label": "westward, setting",
          "subpoint_lat": 29.5339,
          "subpoint_lon": -80.7493
        },
        {
          "azimuth_deg": 59.84,
          "azimuth_plus_2m_deg": 48.35,
          "azimuth_plus_5m_deg": 44.35,
          "element_age_hours": 10.55,
          "element_epoch": "2024-02-20T20:00:01.000224+00:00",
          "elevation_deg": 22.96,
          "elevation_plus_2m_deg": 5.75,
          "elevation_plus_5m_deg": -5.58,
          "epoch_altitude_km": 352.08,
          "ground_track_bearing_deg": 42.13,
          "ground_track_label": "NE",
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Appendix C. Source Exhaustion Checklist

This checklist records which source layers were actually applied to this individual report. It separates checked evidence from unexhausted collection gaps so the disposition is auditable when the PDF is read alone.

SOURCE LAYER	STATUS	CASE-SPECIFIC NOTE
NARA PUBLIC UAP/FAA REPORT	reviewed	Source IDs: 237UAP00613
TIME AND OBSERVER COORDINATE	extracted	2024-02-20T09:27:00+00:00 at 28.08999, -85.26925
ORBITAL OBJECT PROPAGATION	screened	Starlink
SPACE-TRACK SATCAT METADATA	screened	33 NORAD IDs checked; 33 matched in local SATCAT subset
LAUNCH-OBJECT/SUPGP LAYER	not applicable	not a launch-object case
NASA/JPL KNOWN SMALL-BODY LAYER	not selected	CAD/Horizons secondary screen included when this case had NEO-relevant timing/geometry
NASA POWER/HORIZONS/DONKI CONTEXT	screened	Hourly weather, sky geometry, and space-weather context where local JSON is present
AIRCRAFT/ADS-B LAYER	screened	54306 trace files scanned; 129 tracks retained; aircraft strong candidate present
NOAA GOES IMAGERY LAYER	not exhausted	Cloud/lightning imagery layer for the report hour
NOAA GOES ABI/GLM MANIFEST	screened	Public S3 object listing for the report hour
NOAA/NEXRAD WEATHER RADAR LAYER	not exhausted	Weather radar only; not ATC/primary radar
NOAA IGRA RADIOSONDE LAYER	screened	Balloon drift plausibility layer
ASOS/METAR SURFACE WEATHER	screened	Nearest station visibility, cloud, wind, precipitation, and METAR observations
WEATHER/BALLOON SOURCE PLAN	planned	Nearest weather-airport, GOES, and radiosonde queries are listed where local plan JSON is present
FINAL ANALYTIC DISPOSITION	normal-object favored	Presence-only satellite density is context only; a stronger case-specific fit is required for normal-object disposition

References and Source Links

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2. National Archives and Records Administration. *Record Group 615: Unidentified Anomalous Phenomena Records Collection*. <https://www.archives.gov/research/topics/uaps/rg-615>
3. National Archives and Records Administration. *Bulk Downloads for Records Related to Unidentified Anomalous Phenomena (UAPs)*. <https://www.archives.gov/research/catalog/catalog-bulk-downloads/uap-bulk-download>
4. National Archives Catalog. *Records from the Federal Aviation Administration Relating to Unidentified Anomalous Phenomena, National Archives Identifier 493468575*. <https://catalog.archives.gov/id/493468575>
5. National Archives direct digital object. *237UAP00613.pdf, FAA UAP report record copied from RG 615 bulk digital objects*. <https://s3.dualstack.us-east-1.amazonaws.com/NARAprdstorage/lz/electronic-records/rg-615/493468575/237UAP00613.pdf>
6. Hugging Face dataset. *oxzoid/space-track-tle-history: historical TLE archive used for Starlink screening*. <https://huggingface.co/datasets/oxzoid/space-track-tle-history>
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8. Space-Track.org. *API documentation for SATCAT and catalog metadata classes used for local enrichment*. <https://www.space-track.org/documentation#/api>
9. NASA POWER. *Hourly point API documentation for meteorological context*. <https://power.larc.nasa.gov/docs/services/api/temporal/hourly/>
10. NASA/JPL Solar System Dynamics. *Horizons API documentation for observer geometry and apparent magnitude queries*. <https://ssd-api.jpl.nasa.gov/doc/horizons.html>
11. NASA. *DONKI space weather API documentation*. <https://api.nasa.gov/>
12. ADSB.lol. *Interactive API documentation and OpenAPI definition*. <https://api.adsb.lol/docs>
13. ADSB.lol. *Historical open-data release documentation*. <https://www.adsb.lol/docs/open-data/historical/>
14. OpenSky Network. *REST API documentation*. <https://openskynetwork.github.io/opensky-api/rest.html>
15. OpenSky Network. *Historical data via Trino documentation*. <https://openskynetwork.github.io/opensky-api/trino.html>
16. NASA GIBS. *Global Imagery Browse Services API documentation*. <https://nasa-gibs.github.io/gibs-api-docs/>
17. NASA Earthdata. *Common Metadata Repository search API documentation*. <https://cmr.earthdata.nasa.gov/search/site/docs/search/api.html>
18. NOAA / AWS Open Data. *GOES public dataset registry*. <https://registry.opendata.aws/noaa-goes/>
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20. NOAA NCEI. *Integrated Global Radiosonde Archive*. <https://www.ncei.noaa.gov/products/weather-balloon/integrated-global-radiosonde-archive>
21. Iowa Environmental Mesonet. *ASOS/AWOS/METAR data download service*. <https://mesonet.agron.iastate.edu/request/download.phtml>
22. Celestrak. *Spacetrack Report No. 3: Models for propagation of NORAD element sets*. <https://celestrak.org/NORAD/documentation/spacetrk.pdf>
23. Celestrak. *Supplemental GP element sets documentation and current endpoint index*. <https://celestrak.org/NORAD/elements/supplemental/>