

GROUND OBSERVATIONS OF FIRST FALCON HEAVY STAGE-2 EARTH-ESCAPE BURN ON FEB 6, 2018 == PRELIMINARY ANALYSIS

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Review draft 2

March 20, 2018

Annotated image of post-burn cloud with suggested explanations

SPACECRAFT WHICH
HAS ACCELERATED OUT
OF ORIGINAL POSITION
BETWEEN TWIN LOBES



TWIN LOBES OF PRE-BURN
'BUTTERFLY' FUEL PURGE
EXPULSED SIDEWAYS AT
LOW VELOCITY



SLIGHT BEND
AT AFT END
OF PLUME
SUGGESTS
A MINOR
IGNITION
ATTITUDE
ERROR THAT
WAS QUICKLY
CORRECTED

APPROX 55 SEC BURN AT 3.5 KM/SEC
WITH ROCKET GAINING SPEED GIVES
END-TO-END PLUME LENGTH >> 200 KM



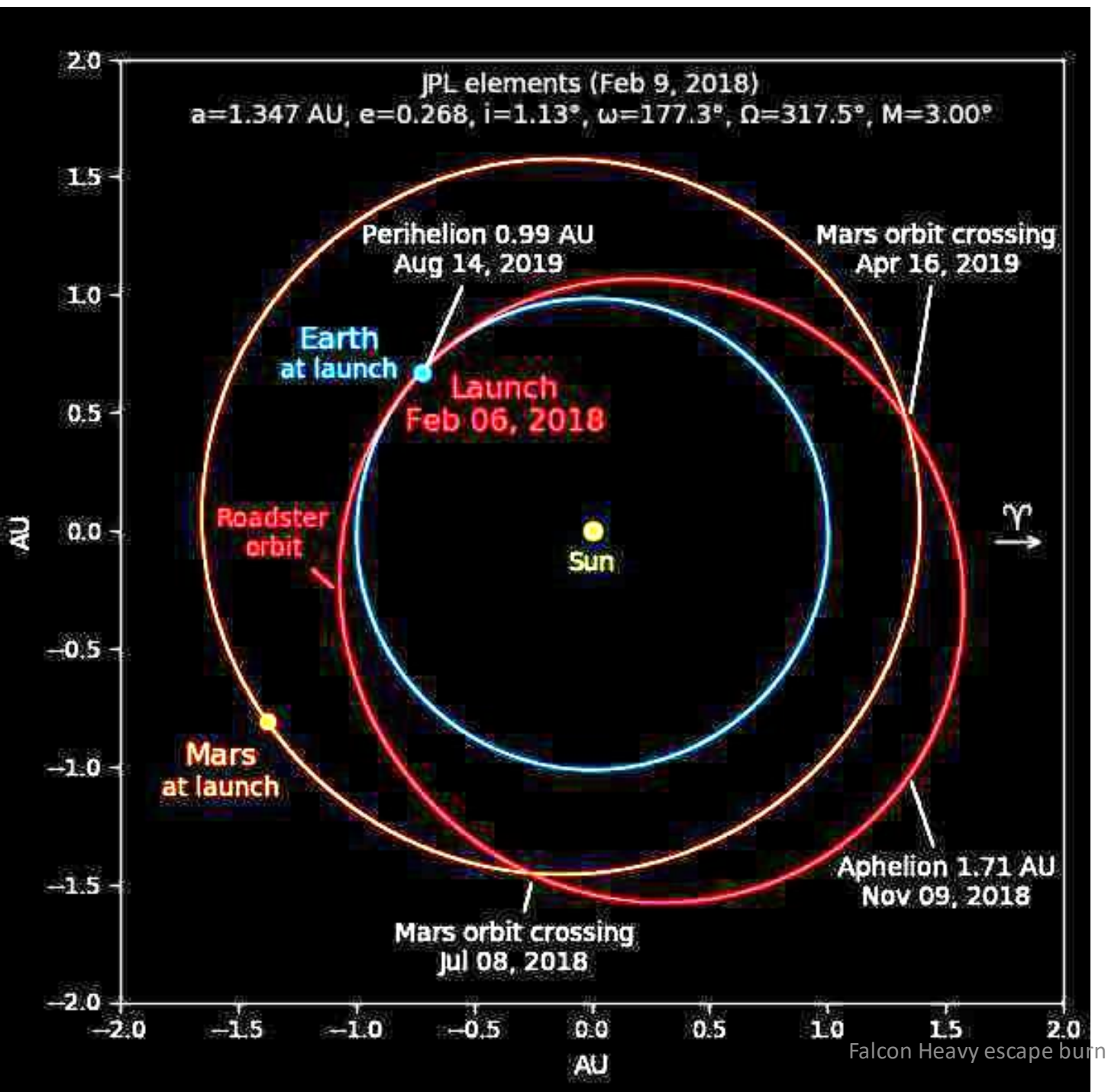
FORWARD END OF ENGINE PLUME
REPRESENTING SHARP SHUTDOWN

AFT END OF ENGINE PLUME
[3500 M/S RELATIVE VELOCITY]



GETTING THERE WAS HALF THE FUN

Falcon Heavy escape burn



TO GET ON THIS
PATH, THE FINAL
PUSH SIX HOURS
AFTER LAUNCH
WAS MADE BY
BLIND CHANCE IN
EVENING TWILIGHT
JUST WEST OF THE
US AND MEXICO –
AND WAS WIDELY
WITNESSED

FALCON-HEAVY “TRIPLE HEADER” SPACEFLIGHT SPECTACULARS

- SPECTACULAR 1 --- FIRST LIFTOFF OF ‘FALCON HEAVY’
- SPECTACULAR 2 --- FIRST DOUBLE RETURN OF BOOSTERS
- SPECTACULAR 3 --- FIRST SPACE-X BURN TO ESCAPE VELOCITY

THE VISUALLY STUNNING IMAGES OF THE FIRST TWO EVENTS WAS ANTICIPATED, DESCRIBED IN PRECISE DETAIL, PREVIEWED IN ANIMATION – AND FAR EXCEEDED EXPECTATIONS IN REALITY. THEY ARE BOTH DESCRIBED IN EXQUISITE DETAIL ELSEWHERE.

THE THIRD EVENT WAS A SECONDARY AFTERTHOUGHT, DESCRIBED ONLY GENERALLY, WAS HYPED WITH A GIMMICK, BUT WAS NEVER EXPECTED TO EVEN BE A VISUAL EXPERIENCE FOR OBSERVERS == AND WOUND UP A SENSATIONAL SURPRISE THAT STARTLED, THRILLED, OR EVEN FRIGHTENED OBSERVERS

WHY THE THIRD SPECTACLE WAS THE CHARM

- The actual location of the burn was never specified in advance in terms of precise geographic area and planned time of ignition
- Several random factors combined to create an unplanned bonus
- Actual liftoff occurred after several hours of delays, shifting all subsequent flight events equally later
- Cloud cover was minimal throughout regions below the maneuver
- The burn-to-escape lit up the evening twilight sky across western regions of the United States and Mexico, and was seen by thousands
- A handful of them had realized the opportunity just in time, and rapidly prepared to observe it
- Many of the surprised witnesses reacted quickly with cameras, and soon circulated detailed descriptions of what they had seen across the Internet

WHAT THEY SAW

The show consisted of two distinctly different acts

Stage-2 first became visible as a fuzzy white blob moving slowly from northwest to southeast

The shape was of two opposing fan-like structures, one on top and one on the bottom, which lasted about two minutes

Suddenly a bright fan-like structure grew from the trailing side of the object, its farther portions gradually fading out

Twin clouds were observed in the engine plume, initially of uncertain origin until analyzed.

Then the apex of the fan detached from the object [now only small star] and within seconds fell behind and dissipated [burn duration approx. 55 seconds]

NOT THE FIRST FALCON ROCKET SKY SHOW

- June 4, 2010 over SE Australia
 - First orbital launch, fuel dump during roll makes spiral
- Sep 29, 2013 over South Africa & Indian Ocean
 - First polar orbit, second stage restart fails, large fuel dump
- Feb 19, 2017 over Persian Gulf
 - Routine resupply to space station, deorbit burn plus fuel dump
- January 8, 2018 over Khartoum, Sudan
 - Secret Pentagon mission, double spiral seen near deorbit burn

ADDITIONAL 'SPACE CLOUD' SIGHTINGS ASSOCIATED WITH FALCON-9 LAUNCHES STILL BEING SOUGHT, HELP REQUESTED

June 4, 2010



BELOW: PHASE-1
AND PHASE-2 OF
FEB 6, 2018



Sep 29, 2013



Feb 19, 2017



Falcon Heavy escape burn

Jan 08, 2018



TIMELINE

- LAUNCH WINDOW OPEN 2018 FEB 06 // 18:30 GMT
- ACTUAL LAUNCH 2018 FEB 06 // 20:45 GMT
- SECOND STAGE RESTART 2018 FEB 07 // 02:31 GMT
- Press kit
- http://www.spacex.com/sites/spacex/files/falconheavypresskit_v1.pdf

<https://www.azcentral.com/story/news/local/arizona-breaking/2018/02/06/rocket-seen-over-arizona-skies-most-likely-latest-spacex/313928002/>

LAUNCH, LANDINGS AND ORBITAL INSERTION

Hour/Min/Sec	Events	
00:01:06	Max Q (moment of peak mechanical stress on the rocket)	
00:02:29	Booster engine cutoff (BECO)	
00:02:33	Side cores separate from center core	
00:02:50	Side cores begin boostback burn	
00:03:04	Center core engine shutdown/main engine cutoff (MECO)	
00:03:07	Center core and 2nd stage separate	
00:03:15	2nd stage engine starts	
00:03:24	Center core begins boostback burn	
00:03:49	Fairing deployment	
00:06:41	Side cores begin entry burn	
00:06:47	Center core begins entry burn	
00:07:58	Side core landings	
00:08:19	Center core landing	
00:08:31	2nd stage engine cutoff (SECO)	
• -		
1) 00:28:22	2nd stage engine restarts	
2) 00:28:52	2nd stage engine cutoff (SECO)	
	Falcon Heavy escape burn	
		Mission continues on an experimental long coast and third stage two burn to target a precessing Earth-Mars elliptical orbit around the sun

Orbit determination – not so easy -- TBS

18038.05572532 February 7 is the 38th day of the year 01:20:14 UTC
1 43205U 18017A 18038.05572532 +.00020608 -51169-6 +11058-3 0 9993
2 43205 029.0165 287.1006 3403068 180.4827 179.1544 08.75117793000017

New entry under bulk downloads

1 43205U 18017A 18037.94189123 .00000283 -50857-6 00000+0 0 9991
2 43205 29.0185 287.3580 3404246 180.0270 180.5840 8.75540848 00

4:00 PM - 6 Feb 2018

The definitive map of the [#FalconHeavy](#) ground track, based on actual tracking data from JSpOC.
Times in GMT.

https://twitter.com/Marco_Langbroek/status/961026756449890304

Erik andersen

When I was watching it did seem like it was coming from a westerly direction and streaking in a more easterly direction I think.

Mcdowell - OK, I have a solution. Burn at 0230:49 UTC at -37 deg pitch giving 3.933 km/s delta-V and a C3 of 35.0 delivering Tesla to 0.99 x 2.62 AU orbit inclined 1.8 deg.

Summary of approach

What is to be presented

- why/where the observation opportunity occurred
- how a few amateurs anticipated location and lay in wait
- what the rest of the startled observers saw
- common misinterpretations of what they saw

What we still don't know about SpaceX ops

- Stage 2 normal pre-relight conditioning
- Merlin engine Isp
- Prop dump valve orientation, flow rate
- Range of mission-specific options

Coherent photo sequence of event phases and explanatory 'rocket science'

TWICE AROUND, THEN OUTWARD BOUND [source...]

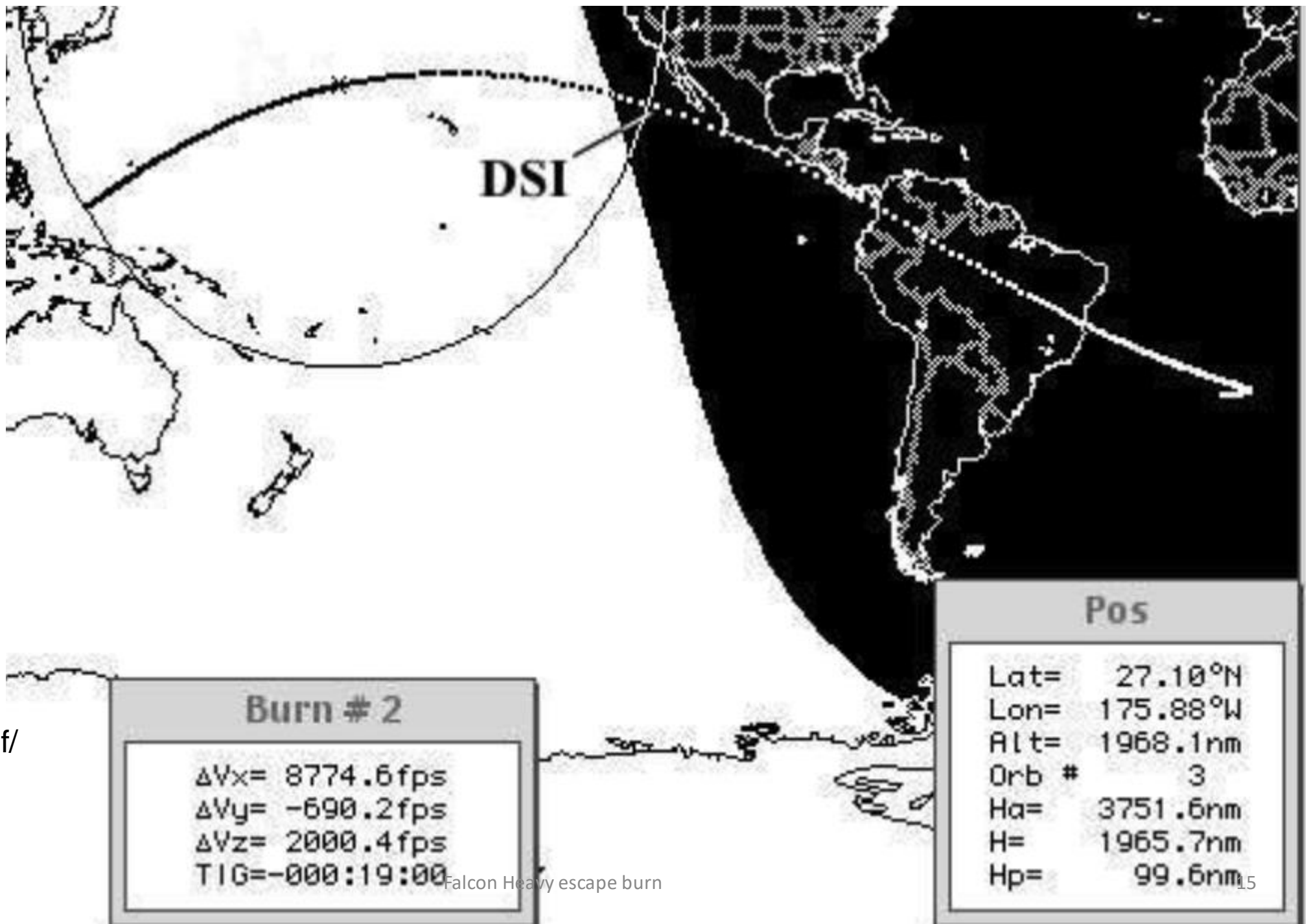


https://1.bp.blogspot.com/-ICPodGVz2O8/WnxJr4YZ_mi/AAAAAAAAAE7A/PckZvpiH9Llaaexr1MII1HCu5kjmej9nwCLcBGAs/s1600/kaart_Falcon_Heavy_150dpi_DEF_anot.png

Dan
Adamo

DSI =
DEEP SPACE
INSERTION

From
<https://arxiv.org/pdf/1802.04718.pdf>



Trajectory analysis

- tbs

outline

SPACE SURPRISE!

Brittany Brelle ==
Saw it from
Claremont,
California!

Mike
OhYeahThatMike ==

I just saw this from
Sacramento!! I was
hoping that's what it
was.



Falcon Heavy escape burn



Ian O'Neill

[<https://twitter.com/astroengine>] -- Was on my night run, I look up and, oh hey #FalconHeavy third burn! And so long #Starman.... I didn't actually think the plume would be visible, let alone from Los Angeles. Crappy picture, as it was pretty bright, expected a little too much of my iPhone camera.... It wasn't a patch on the December Falcon 9 show, but it was pretty all the same. Looked like a small comet

<https://twitter.com/astroengine/status/961072877771436032>

Falcon Heavy escape burn

Natalie Wells == Also
seen over Las Cruces, NM!



<https://pbs.twimg.com/media/DV7sxlzUMAAdY1.jpg>

Falcon Heavy escape burn

Jonathan McDowell chases down burn-3 location

- a
- A
- A
- A
- A
- A
- A

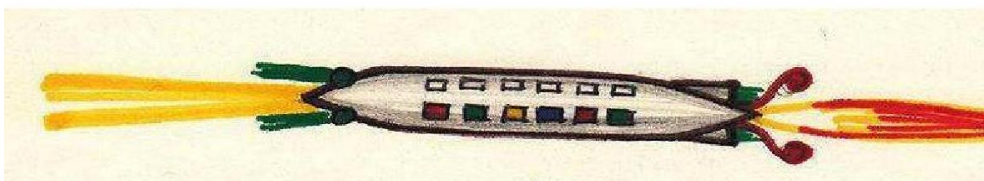


WHY SHOW SO MANY DETAILED EYEWITNESS REPORTS?

- COLLECTING ALL AVAILABLE WITNESS REPORTS SERVES SEVERAL PURPOSES
- IF THEY SEEM TO BE TOO REPETITIVE OR UNINTERESTING, SKIP TO THE END OF THE SECTION
- BECAUSE THE APPARITION IS SO FAR BEYOND A WITNESS'S EVERYDAY EXPERIENCE BASE, THE DESCRIPTIONS MAY ONLY BE APPROXIMATE, AND ANALYSTS MUST APPRECIATE THE LIMITATION
- ANY POST-EVENT ATTEMPT TO CONDENSE OR EDIT DOWN THE VERBAL PASSAGES THREATENS TO UNINTENTIONALLY INTRODUCE THE BIASES AND EXPECTATIONS OF THE CHRONICLER
- WITHOUT PRESERVING THE FULL RANGE OF PERCEPTIONS AND INTERPRETATIONS, ANY FUTURE ATTEMPTS TO WALK-BACK NEW VISUAL REPORTS TO INTERPRET THE NATURE OF UNDOCUMENTED SPACE EVENTS WILL BE IMPEDED, IF NOT RENDERED TOTALLY UNACHIEVABLE
- RAPID THOROUGH COLLECTION OF ALL IMPRESSIONS IS CRITICAL TO AVOID IRRETRIEVABLE LOSS OF TEMPORARY STATEMENTS AND COMMENTS ACROSS THE INTERNET, ESPECIALLY AS THEY ARE USUALLY VERY POORLY KEYWORDED FOR ANY LATER SEARCH ENGINE APPLICATION
- IN MANY CASES, PSEUDONYMOUSLY POSTED COMMENTS CAN PROVIDE ACCESS TO ORIGINAL WITNESSES FOR FOLLOW-UP QUESTIONS BUT ONLY IF DONE PROMPTLY AND DIPLOMATICALLY

Use and misuse of analogies

- THE EYEWITNESS REPORTS OFTEN REFLECT THE STRUGGLE THAT STARTLED PEOPLE UNDERWENT TO FIND ANY EARTHSIDE TERMS OR ANALOGIES TO USE FOR A ONCE-IN-A-LIFETIME UNEARTHLY APPARITION
- “LOOKED LIKE” IS A COMMON PHRASE WITH REFERENCES TO MANY ORDINARY-LIFE OBJECTS == HEADLIGHTS, ZIG-ZAG CONTRAILS, SPIRAL TOYS, FIREWORKS, SPARKLERS, FRUITS AND VEGETABLES, PARACHUTES...
- COMPARING THE VISUAL STIMULUS TO PAST SIGHTINGS [WHICH IS THE NORMAL COGNITIVE PROCESS] OPENS THE POSSIBILITY THAT UNDER SUBSEQUENT LATER RECOLLECTION, EXTRANEIOUS FEATURES OF THE COMPARED-TO MEMORIES CAN UNCONSCIOUSLY INSERT THEMSELVES SEAMLESSLY INTO THE NEW EXPERIENCE
- THIS MAKES IT ALL THE MORE IMPORTANT TO OBTAIN AND PROVIDE FULL VERBALIZATIONS FROM WITNESSES, UNPROMPTED AND UN-SUGGESTED
- QUICK FOLLOW-UP QUESTIONING NEEDS TO OBTAIN MANY USUALLY OMITTED DETAILS SUCH AS DIRECTION OF SIGHTING AND MOTION, ANGULAR SIZE AND SPEED [ONE FIST AT ARM’S LENGTH = TEN DEGREES], FLUCTUATIONS & TIMING
- IDEALLY, VERBAL DESCRIPTIONS SHOULD BE COLLECTED BEFORE SEEING IMAGES

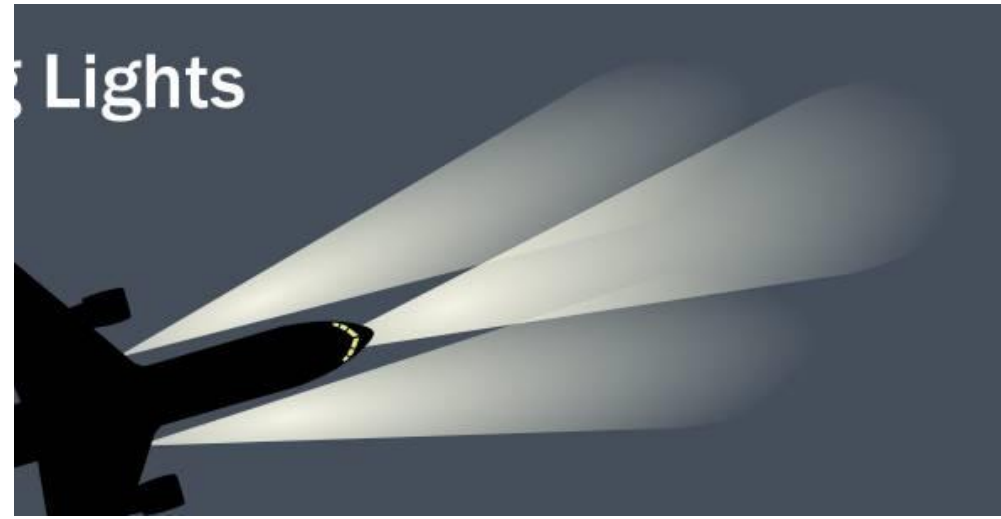
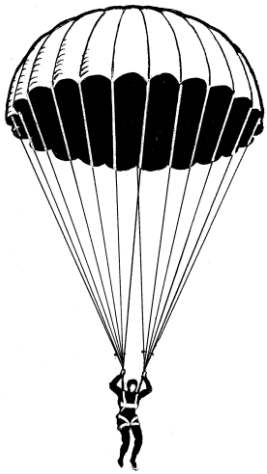


WITNESSES OFTEN GRASP FOR FAMILIAR SIGHTS TO COMPARE THE STARTLING AND NEVER-SEEN-BEFORE APPARITIONS CAUSED BY SPACEFLIGHT OPERATIONS. [LEFT] FIREBALL SWARMS IN FORMATION CAN BRING TO MIND LIT WINDOWS IN AIRPLANES AND AS RESULT MANY HUMAN WITNESSES ‘CARRY OVER’ ADDITIONAL STRUCTURAL ELEMENTS OF THE PREVIOUS MEMORY [KIEV USSR CASE, 1963]

Falcon Heavy escape burn



“BUTTERFLY WINGS”



THRUSTER PLUMES, DEPENDING ON ORIENTATION, HAVE BEEN COMPARED TO PARACHUTES [LEFT] , OR LANDING LIGHTS AND HEADLIGHTS IN FOG [RIGHT]

Ganhe [Inner Mongolia]
like “a red turnip with
tilting tail”. Is this a clue
of a nearby launch?



[above] Soyuz booster
ascent plume
[left] Chinese turnip



[right] LATE STAGE
SOYUZ ASCENT



CHINESE WITNESSES
CHOSE VEGETABLE
ANALOGIES FOR SOME
MISSILE EVENTS [LEFT,
‘RED TURNIP’, RIGHT
“shining gourd”]

Falcon Heavy escape burn



SPECTACULAR SPACEFLIGHT FAILURES WHERE CIVILIAN GROUND OBSERVATIONS CAN PROVIDE CLUES TO CAUSE



1. 'NORWAY SPIRAL' == Dec 9, 2009 // RUSSIAN BULAVA ICBM seen from Norway

http://satobs.org/seesat_ref/misc/Norway_Spiral_--_15_FAQS_final.pdf

2. MERIDIAN Dec 23, 2011 " plesetsk satellite launch, 3rd stage explosion, nw russia

http://satobs.org/seesat_ref/misc/meridian_crash_2011_draft.pdf

3, LONG MARCH 5 SECOND LAUNCH july 2, 2017 Engine anomaly seen from Philippines

<https://forum.nasaspaceflight.com/index.php?action=dlattach;topic=42798.0;attach=1469451;sess=1180>

4. MOLNIYA INSERTION, FEB 11, 1980 // 4th stage anomaly, seen from Chile

http://satobs.org/seesat_ref/misc/molniya_clouds_over_south_america.pdf, p. 54

Phil Karn // February 6 at 9:10pm



I observed Starman on its pass over San Diego. When it appeared it looked like a comet with two jets at 180 degrees -- almost certainly non-propulsive LOX venting jets. Shortly after closest approach, these suddenly stopped and were replaced with a long trailing plume -- almost certainly the escape burn. It seemed rather short, but maybe it didn't have to be long given that it was already in a 7000 km apogee.

JO: Did anybody observe any post-plume fuel-dump cloud? This could be VERY important in the on-going assessment of the meaning of the double-spiral observed over Khartoum a month ago during the mysterious Zuma mission.

I didn't see any obvious immediate post-burn dumping from San Diego, but it soon entered eclipse and set in the east so I doubt anybody else would have seen it either. Not having the post-burn elements I don't know when it would have emerged from eclipse. Also, the high aphelion (beyond Mars orbit) suggests the burn was to depletion, but who knows?

But I was thinking about Zuma's double spiral last night. The stack was in a slow thermal control roll during the parking orbit, and as long as the attitude was correct I can't think of a reason not to continue rolling through the burn. So the two jets I saw before the burn (which I heard was an engine chill-down procedure) would probably have appeared as a spiral had we seen the stage head-on instead of from the side. That makes me think the Zuma stage was still preparing for a burn when it was observed over Khartoum.

Karn [continued]

I would have had my 8" telescope out, automatically tracking and recording the whole thing for posterity on Youtube if we'd had any advance warning. But an hour before the pass I was still sitting in a Del Mar restaurant with my wife, nibbling at my spaghetti and perusing various online orbital element sources on my laptop for newly cataloged objects.

I knew it was still in its parking orbit because of Musk's casual tweet the previous day about a 6 hr coast phase to demonstrate direct GEO insertion for the USAF. Without more I incorrectly assumed it was in GTO. I only learned the apogee was 7000 km from a realtime chat with Perry Metzger.

I found a likely candidate elset on Space Track (listed without a name as COSPAR 2018-017A and NORAD catalog number 43205 -- hadn't made it to Heavens Above) and plugged it into my own tracking software, still in development. Lo and behold, it predicted an upcoming pass in only an hour. Hmm, was this after local sunset...?

Yes!! So we hurried home (those magic white EV stickers work wonders around here) and got back just in time to grab the binoculars and go outside. I'd assumed (again lacking information from SpaceX) that the burn would be at perigee as that's the most efficient place to do an escape burn. That would be after eclipse and set at our location. Much to our surprise, we saw LOX venting abruptly stop and the engine fire up seconds later, a few minutes before reaching perigee. Never expected to see that.

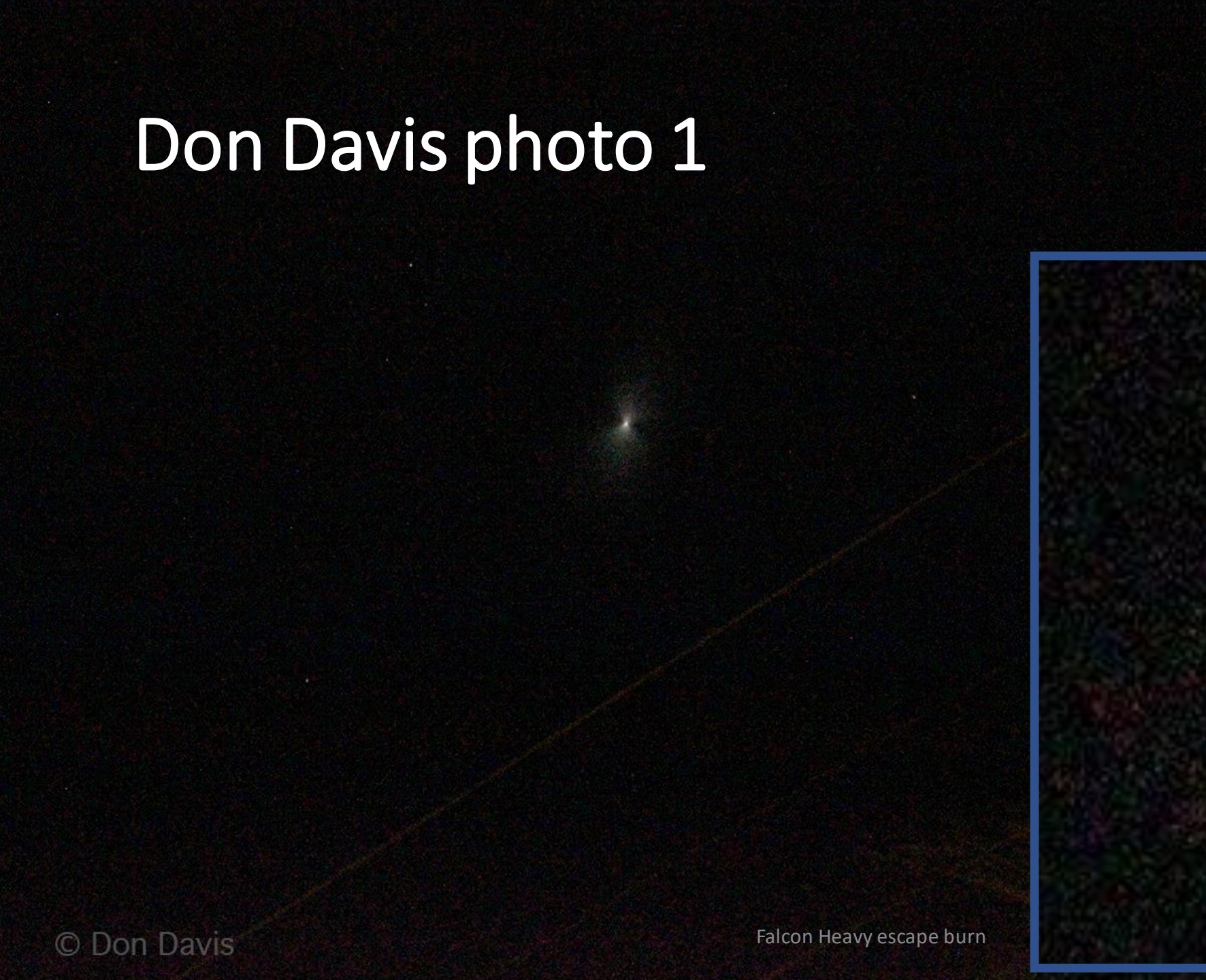
Space artist Don Davis in LA, watching the sky....

“A missile launch has just taken place that appeared as a cometlike light appearing almost like a light in a fog. I rushed in to get binocs, through them the presumed missile, moving more like a satellite in its speed, had symmetrical rays, when I first saw it to the SW appearing over the mountains it was about the full Moon wide, $1/2$ degree.

“It expanded and brightened and became more of a 'cone' shape as it reached its nearest point almost due south, roughly 40 degrees high. I took long exposure photos hand held as it passes, and when it reached SSE the engine cut off and a vaguely loop shaped faint expanding cloud dissipated.”



Don Davis photo 1



Davis: "Maybe a minute after the exposures began at 6:53 PM the plume grew and spread into a brighter cone shape. Here it is caught in the act of growing, with an initially sharp trailing edge.



Davis: "This is the best image I got of the developed final plume. A faint expanding 'puff' surrounds this, just visible in the original picture. An unexpected local angle to today's space spectacular!"



Davis: “And lastly, this very grainy view showing the dissipating conical cloud and the lesser glow of the rocket proceeding on its way to its left.”



Falcon Heavy orbit transfer burn as seen from San Diego!

Falcon Heavy orbit transfer burn as seen from San Diego!



PyroForge
Published on
Feb 6, 2018

0:07 / 1:33



<https://www.youtube.com/watch?v=H9LXhHVzdF4>

Falcon Heavy orbit transfer burn as seen from San Diego!

- PyroForge == At 6:30 PM local time in San Diego, I caught the Tesla roadster / Starman payload doing its transfer burn on the way to Mars orbit. It launched from Cape Canaveral, Florida about 8 hours earlier, so I had no idea that I would be seeing it in my own skies. Caught unprepared, I snapped a few photos and grabbed a few video clips, managing to miss both the engine relighting and cutoff. Oh well, at least I saw it with my own eyes. You can even see the payload separation at the end. Bon Voyage!
- JimO questions
- Hi Jim, I don't have a ton more information since I wasn't even planning to be filming tonight. Here's what I know though: location: San Diego, CA near the stadium date/time: 2018feb06, approximately 18:25-18:35 PST azimuth/elev: I first saw it in the southwest sky at about 40deg elev, it maxed out at around 60deg elevation to the south, and then disappeared in the southeast sky. total duration is unknown, since i missed the beginning. The video is split up so I could change position and change zoom. if one wished to correlate the published time of this burn to the stars in the background, it might be helpful to know that the first segment was shot at 100mm focal length, the second at around 200, and the third at 400mm.

<https://www.youtube.com/watch?v=H9LXhHVzdF4&lc=z223jb0zmmwuujdqgh04t1aokg3fhdrlhv2yw1cf1ntmebk0h00410.1517990837885191&feature=em-comments>

It's a Bird! It's an Angel! No, It's Falcon Heavy!



FEBRUARY 7, 2018

by Steve Jess

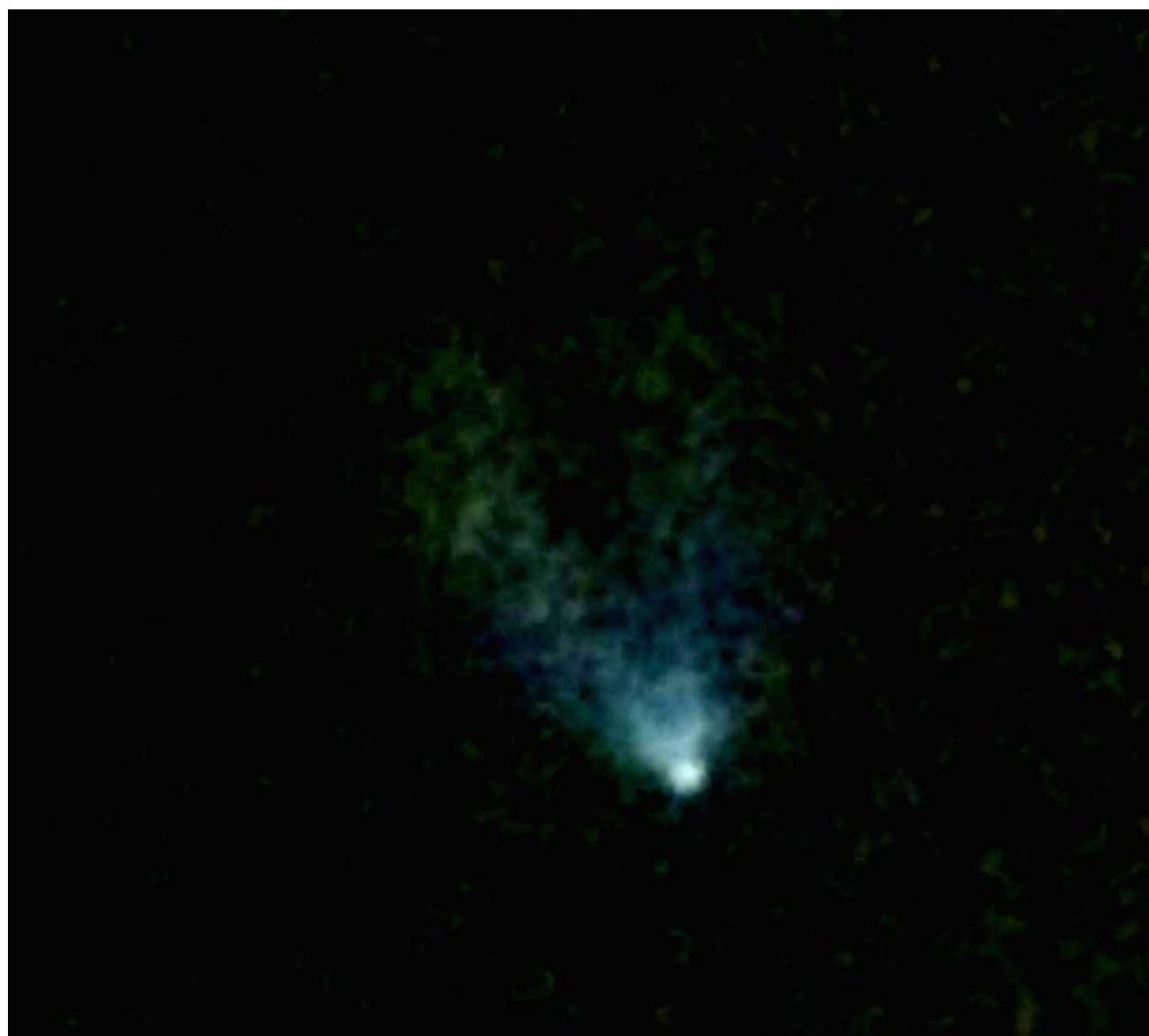
Mars-bound rocket
gives Southwest a
sky spectacle.

<https://media.azpm.org/master/image/2018/2/7/view-larger/3-falcon-3.jpg>

<https://news.azpm.org/p/news-articles/2018/2/7/123842-its-a-bird-its-an-angel-no-its-falcon-heavy/>

Falcon Heavy escape burn

Lazslo -- I grabbed
charleysnow's and
pmonta's burn 3
images and did a little
processing and here's
what I got.
[https://forum.nasaspac
eflight.com/index.php?
topic=44376.msg17850
03#msg1785003](https://forum.nasaspac
eflight.com/index.php?
topic=44376.msg17850
03#msg1785003)



Falcon Heavy escape burn



Falcon Heavy escape burn

It happened now. UFO spotted in California ..



Pretty high quality video

<https://www.youtube.com/watch?v=sHSLwMd3pkM>

Falcon Heavy escape burn

UFO or possible rocket over Oakland, CA?

CajunMetal posted on Feb, 7 2018 @ 12:44 PM

I'm hoping anyone knowledgable about rockets can help explain what I saw, or whether there are any Bay Area ATSers who saw what I saw last night.

I realize the SpaceX launch happened yesterday as well, but this occurred at 6:30pm PST.

I was admiring Orion in a clear, cloudless sky, looking east. I noticed a star that was obscured by what looked like a cloud. It could also be described as a fuzzy star with a halo. This star was stationary as I watched it for a moment considering that it could possible be a plane flying towards me, or if a rocket flying towards me, that would account for the 'cloud' appearing to surround it.

There were no blinking or navigational lights.

[more]

<http://www.abovetopsecret.com/forum/thread1198860/pg1>

CajunMetal [continued]

After a moment or two, however, it began traveling south to north (right to left) for a good 5 seconds. No lights, and the 'cloud' obscuring it did not change shape, elongate, etc, as you would expect to see with a rocket which as turned. No contrail or anything like that. Just this fuzzy star surrounded by its own little cloud.

After another good 5 seconds it grew brighter, clearer, and the cloud turned into a conical shape behind it, as you would see behind a rocket. It continued its trajectory for another 10+ seconds and vanished. It didn't fade away in the distance or change direction. Just disappeared with no trace of a contrail or anything.

What confuses me is that when it began to move it's 'cloud' didn't change shape indicating a turning rocket that had until that point appeared stationary as it moved towards me.

And when the cone developed on the same trajectory the whole shebang just disappeared. Is this typical behavior for a rocket?

<http://www.abovetopsecret.com/forum/thread1198860/pg1>



<http://files.abovetopsecret.com/files/img/km5a7b4167.jpg>

Object heading SE over the west coast

TheScale posted on Feb, 6 2018 @ 08:34 PM

so im not sure if this is the right place but did anyone else just see what looked abit like a rocket with a plume flying SE over the west coast? its odd cause when i first saw this i thought it was a star being diffused by light clouds or haze but the haziness or plume kept winking out then reappearing. as i watched another satellite came in heading south that crossed by it aswell. very interesting and almost looked like a rocket out of control. went by right at 6:30pm

[more] im in northern california. it seemed to have an odd trajectory though like it was really high already. i also saw the launch a few years back out of san diego and that was clear as day from northern california even before it reached the vacuum of space. this looked quite abit different though. just a plume localized right around the light itself unlike the other launch where i could see the entire track the rocket took and where it reached the vacuum of space as the plume expanded dramatically and even saw the separate stages go off flinging debris everywhere. this was kind of a hazy smudge of something slowly progressing SE

Cyprex -- Just saw it over the Bay area headed southeast. Totally looked like a rocket with a plume to me.

<http://www.abovetopsecret.com/forum/thread1198786/pg1>

skeptics

- Stephan Saltikov == I saw that too!!! I tried to get a vid but my phone wouldn't pick it up! So glad someone else saw it!!! P.S. Saw this in Orange County CA btw. Couldn't be the rocket launch, that was 4 hours ago and on the other side of the country.
- English Patriot == How can it be spacex as the launch was daytime and live.
- Navymike == NOT SPACE X, AS IT WOULD HAVE BEEN 1030 PM EST IN FLORIDA IN WHICH SPACE X WAS ALREADY ORBITING!!!
- Mike Hogue == It's a rocket, must be military. Space x was launched from Florida, that rocket it still in the atmosphere, SpaceX wouldn't be seen.
- DroneLife == This video is not of SpaceX launch of the Tesla car yestetday.. it was done in Fla this video is done in California
- <https://www.youtube.com/watch?v=1nklrsBPYu8><https://www.youtube.com/watch?v=1nklrsBPYu8>
- Parrot-hD == This is in California? Pretty sure the spacex launch never even went over that region... If it did, it was super late in the flight, and way too high up and not powerful enough to be that bright.

UFO or SpaceX? Object Captured On Video Over California - 02/06/18

- they are out there WE KNOW == They didn't Launch at night time
- harwellinhell == I saw this in Long Beach. Why would we see the Tesla rocket in the evening in California when it launched that morning in Florida? It as on a southern trajectory as well.
- Gabriel Peralto == I saw this at 640pm pst in San Pedro ca and the space x launch happened hours before this. Had me trippin
- Damian young == we seen this last night in Arizona..it looked like it was in a bubble with a tail and there was a jet chasing it
- Mike Lam == i seen this in temecula something was ejected out the front also saw a few little ufos fly into this thing thats when it started moving before that it was like a glowing cloud but was stationary

Value of 'UFO' websites for raw data

- TBS

Arizona video, discussion

- [Dallas Piscopo @dallaspiscopo](#)
- Was there another [@SpaceX](#) launch? I just saw a rocket cruising over Arizona night sky
- [@LukeAFB](#) do you guys know what this thing was? Just came through the atmosphere a few minutes ago in Southern sky, then a bunch of your flyboys went that way.
pic.twitter.com/BtMcQodjI5
- — Jason (@jason_41184) [February 7, 2018](#)

<https://www.azcentral.com/story/news/local/arizona-breaking/2018/02/06/rocket-seen-over-arizona-skies-most-likely-latest-spacex/313928002/>

From arizona

https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3Dbz0Asmdo4hA&h=ATOimOQTJl_INwBoOuNx7DMLNOo69wcXfl3C6QkXQb-YC6PhdUXU3zhNZ65gGXj_T7R5rzf11H4-lpE5ggG5cq5dKwVyoD7IK7KEH-E7d5IF5nAzYGo8QlKMI53PUBoinPnp2CMrYs_RuRud369KS_LHuASvyjvKCLtIXA

Twitter discussion

[Kindra Baker @kindragurl](#)

I could see it too here in Colorado

[Rhonda @RhondasGotThis](#)

Yes! My family & I saw it going down western coast from Northern CA. Appeared to have a trail, comet like. Mesmerizing.

https://twitter.com/baezman/status/961066968534073344?ref_twcamp%5Ecopy%7Ctwsrsrc%5Eandroid%7Ctwgr%5Ecopy%7Ctwcon%5E7090%7Ctwterm%5E2



Manuel Baez

@baezman

Follow



Just saw this light moving across the San Jose sky. [#UFO](#) [#whatwasthat](#)



Falcon Heavy escape burn

Derek C Breit

- I have added the full video to my Gallery page, Which contains an equal amount of video previous to the Burn.. This is posted to help with any positions people would like to derive.. Bottom right of..
<http://www.poyntsource.com/New/Gallery.htm> 256 MB !!!
- Video shot from my front yard in Morgan Hill, CA.. Time is exact, though the Camcorder - used only as a VCR - needs cleaning.. The Quadruple star that is at the lower left of center at the start of the video.. The brightest star is.. Mag 3.5 Deneb in Cetus.. Orientation is Normal Eyeball.. Derek Breit BREIT IDEAS Obs
- 52 second burn
- breit_ideas@poyntsource.com
- It is a hefty 256 Mb download, but Derek Breit from Morgan Hill, CA, made this amazing video showing the FalconHeavy and Tesla being boosted into heliocentric orbit:
<https://t.co/58mtMLKyYV>

“Falcon Heavy Earth Escape burn on Lick Observatory images”

- From: Rick Baldrige via Seesat-I <[seesat-i at satobs.org](mailto:seesat-i@satobs.org)>
Date: Tue, 6 Feb 2018 20:18:06 -0800
- Per previous posts about images obtained from Kitt Peak of the Falcon Heavy escape burn, I've located Lick Observatory All-Sky camera images as well.
- Three photos in sequence starting at:
- https://mthamilton.ucolick.org/data/2018-02/06/skycam2/public/SC2_2018020702
- 2715.jpg show the burn - very similar to the Kitt Peak photos. Well done, SPACE-X.
- <http://satobs.org/seesat/Feb-2018/0058.html>

PAUL MALEY via Seesat-I

- Date: Wed, 7 Feb 2018 05:13:32 +0000 (UTC)
- I was in the field when I first sent an email and was simultaneously working on a minor planet occultation when I unexpectedly saw the object. I was actually sitting in my car with no glasses on and saw what appeared to be an out of focus Moon through the windshield. I jumped out, put on my glasses, and immediately recognized the sight since I have seen venting before, but not in perhaps 15 years. The core was about 2nd magnitude in the west and was distended with two wings (one above and one below) in a short cone shape. As the object moved, I was so shocked I failed to grab a camcorder and instead used an iPhone to attempt poor images.
- Because I receive just one SEESAT concatenated set of messages per day, I did not see any of the predictions about southern USA visibility until moments after I sent the email. That is when the single SEESAT email arrived. By then it was too late. The object rose to about 1st magnitude then expanded into standard classic "fuzzy contrails" on either side about 10 degrees in length. All of this became diffuse into one large cloud which faded out. The whole thing took about 8 or 9 minutes. I first caught sight of it at 0226UT Feb 7 and lost it at around 0236UT.
- Paul D. Maley email: pdmaley@yahoo.com

<http://satobs.org/seesat/Feb-2018/0061.html>

Kalpana Heavy escape burn

Heliotown Observatory [NM] All-Sky Camera

- From: Thomas Ashcraft via Seesat-I <[seesat-i at satobs.org](mailto:seesat-i@satobs.org)>
Date: Wed, 7 Feb 2018 09:52:07 -0700
- My all-sky camera here in north-central New Mexico caught the Tesla "burn" and dump and I am processing it now. But I am not sure I understand what the camera captured.
- Was the shining visible path of the rocket until the dump caused by reflected sunlight? Was there any actual burning? Was there any friction with the ionosphere?
- I am also scrutinizing for possible forward scatter or direct radio emission.
- IMPORTANT NOTE: I compressed the eight minute long video to just five seconds. It is just a place holder until I process this all further. The full event was visible for about eight minutes here.
- <https://vimeo.com/254698671>
- Thomas Ashcraft - Heliotown Observatory
- <http://satobs.org/seesat/Feb-2018/0071.html>

FH escape burn, MMT site [Mt. Hopkins, AZ]

<http://satobs.org/seesat/Feb-2018/0056.html>

- Date: Tue, 6 Feb 2018 22:17:23 -0600
- Tim Pickering pulled out a complete time-lapse of the FH burn as seen with the all-sky camera at the MMT Observatory on Mt Hopkins, Arizona, and posted it on Twitter:
<https://twitter.com/twitter/statuses/961080240389832706>
- This might be detailed enough to narrow down the orbital parameters a bit, if that really is engine shutdown seen at the end.
-
- Bill Keel wkeel@ua.edu or wkeel@as.ua.edu

<http://spaceweather.com/>

TESLA ROADSTER LEAVES EARTH: Elon Musk's cherry red Roadster has left Earth orbit. Just after sunset on Feb. 6th, sky watchers across the southwestern USA saw a flash of light and a cloud of rocket exhaust signaling the electric car's escape from the gravity well of our planet. "The Falcon Heavy's third stage burn was clearly visible from Trinidad, Colorado, around 7:30 pm MST," reports Zachariah Borrego. "While I was watching, my girlfriend Tamera Morton took this incredible picture of the expanding cloud."

"After spending the previous 4 hours in Earth orbit, this final burn propelled the Tesla Roadster toward the orbit of Mars accompanied by David Bowie's music," notes Borrego. "A space oddity indeed."

The event was widely seen from southern California to New Mexico and Colorado. Experienced observers likened the luminous tip of the cloud, where the Tesla Roadster was located, to a 1st magnitude star. An all-sky camera at the University of Arizona's MMT Observatory recorded a fish-eye video of the booster burning across the sky over Mount Hopkins.

Falcon Heavy Third Stage Rocket

Taken by SkywatchTeam on February 6, 2018 @ Trinidad, Colorado, USA

Details: This is the third stage of the Falcon Heavy rocket sighting, with a Tesla Roadster attached to it , this final burn will take the car to Mars orbit, accompanied by David Bowies music on repeat. For the last 4 hours before this stage burn, the rocket and car were in Earth Orbit. Seen from Trinidad in Southern Colorado facing south west to south east at 730pm space oddity indeed

#skywatch #falconheavyrocket#nightskylove

http://spaceweathergallery.com/indiv_upload.php?upload_id=142492

SkywatchTeam-1



http://spaceweathergallery.com/full_image.php?image_name=SkywatchTam-DSC_9601_1517998316.jpg&PHPSESSID=pcg8j44p5pr8ih8edtluhrmdn2

Falcon Heavy escape burn

SkywatchTeam-2, 3



Falcon Heavy escape burn



http://www.spaceweather.com/images2018/07feb18/3rdstage_strip.jpg





Falcon Heavy escape burn



Falcon Heavy escape burn

Jeff Martin, San Diego Astronomical Society <sdaa@yahoogroups.com>

My wife called me to tell me to shut the front gate when I noticed that the moon looked like it was peeking through the clouds 2/3 of the way to the Southern Horizon. "Wait, it's third quarter, not 1st, and it's not cloudy" Orion was clear to the east. Huh...

I went in to get binocs, now it looked like a comet, white and wispy further to the east. With a white point, like a star, not quite as bright as Jupiter (nor as big). I'm thinking incoming reentry vehicle or satellite crashing.

I go back inside and grab a scope. I definitely see a point source of light trailing streamers to either side at about 30 degrees from straight back (like a boat wake, but wider). Much, much wider than what you would expect from a jet.

I follow it a bit, by now it's to the southeast over San Diego.

It disappears. I have no idea what it was (until this morning's news).

“**Dave**”. San Diego Astronomical Society

Four of us were doing the Hilltop Middle School party last night when we spotted Falcon in the west headed toward us.

We exclaimed, not supposed to have ISS tonight. Must be another Vandenberg launch.

It passed to the south of us headed SE and the plume was very bright. We all watched with mounted 15x70 binos and then it suddenly disappeared.

Got home and researched, discovered it was "Starman" headed for Mars!

I heard it was seen in CA and AZ.

[Later, Dave estimated that the burn was visible for about three minutes, then went off instantly. The object disappeared.]

Bright light seen in California night sky 1

- KSBY News // Published on Feb 6, 2018 // 1,856 views
- STARMAN 2029 == I live in Piru CA, it was stationary for a few minutes before it started moving southeast and it had a strange aura around it like a fuzzy cloud! It moved way too slow for it to be any type of rocket booster or craft. Towards the end it flashed like a rocket but the first several minutes it moved across the sky super slow.. It was indeed strange. I have seen many of launches and this was something totally different

https://www.youtube.com/watch?v=gVp_nD8sNAA

RAW VIDEO: Strange light seen in western sky

https://www.youtube.com/watch?v=88lirh3Rd_E

Space Exploration Stack Exchange is a question and answer site for spacecraft operators, scientists, engineers, and enthusiasts.

Could a Falcon Heavy test flight be responsible for these observations?

- MT Hensley == **We observed a bright, slow moving (in our view for several minutes) large object that eventually left large bright contrails. This was over Northern New Mexico at around 7:29 PM MST. The object was moving from north west to south east. We do have crappy video. Wasn't it maybe a Falcon Heavy test flight?**

<https://space.stackexchange.com/questions/25033/could-a-falcon-heavy-test-flight-be-responsible-for-these-observations>

UFO Sightings #101 February 6-7, 2018 – Submissions Compilation [UFO Planet TV]



**HALF THE SUBMITTED VIDEOS
WERE MISSILE PLUME EVENTS**

JFO Sightings #102 February 7-8, 2018 – Submissions Compilation

https://www.youtube.com/watch?v=De_gHJLEyrE

UFOplanet comments

- Ernesto E. == Hi UFO Seekers, I noticed that this very same UFO V shape ship & not a rocket you caught was seen in Arizona & New Mexico and it changed colors from yellowish orange to blue! Nice catch n I do believe you guys caught it first other then the military home land surveillance' them lying clowns!
- Lee Stockwell == Hmmm, I'd say a pyramidal object manipulating clouds and when no clouds manufacturing them to hide objects in the sky. Hense why in ca, az people are seeing this, because yall have clear skies. So basically those object's are trying to hide other objects like extra planets that aren't supposed to be there.....who knows

MUFON CASE NO: 90094
CLASSIFICATION: NOCTURNAL LIGHTS
LOCATION: EL MIRAGE, AZ

TIME: 07:10 PM
DATE: 02/06/2018

TBS

'STARMAN' CAUSES MASS UFO SIGHTING OVER SOUTHWEST USA - PNT
Special Report

73 views

👍 6 💬 0 ➦ SHARE ≡+ ...

<https://www.youtube.com/watch?v=CrJlXfLHvIM>

Falcon Heavy escape burn

Paranormal News Today

FOLLOW UP NOTE: The object seen above is NOT the Space X/Falcon Heavy launch. While yes, Space X did launch the Falcon Heavy on 02-06-2018- the launch was OVER will all boosters landed at LEAST 4 HOURS BEFORE THIS EVENT. This has been confirmed through livefeed replays, interviews and the Space X website. Whatever this was, it was NOT Elon Musk. This time. Sorry, guys... but the facts just don't allow that to be a viable conclusion. Now I WILL buy a secret military launch, but uh uh. Not Space X. Checked, eliminated, discarded.

Post Edit: Looks like this WAS the final burn stage of the Starman payload. No official confirm from Space X, but the evidence is weighing in that direction.



THIS WEBSITE DID
GREAT WORK
CATALOGUING
VARIOUS VIDEOS OF
THE FALCON PLUME.

“Paranormal News” compilation

Welcome back, Faithful Viewers! As promised, here are the 22 witness reports of the strange object seen over the Southwest of the US on 02-06-2018. Several video clips and photographs were taken and included.

[00:28](#) 90094 Arizona
[01:29](#) 90076 New Mexico
Photos at [02:13](#)
[02:32](#) 90089 New Mexico
[03:27](#) 90084 Colorado
[05:42](#) 90106 Colorado
Video at [06:24](#)
[07:36](#) 90065 Phoenix
[08:20](#) 90070 New Mexico
[08:37](#) 90071 Colorado
[09:39](#) 90073 Colorado
[10:35](#) 90075 Colorado
[12:04](#) 90083 Arizona
[12:24](#) 90066 Arizona
[13:04](#) 90069 Arizona
Video at [13:51](#)

[16:00](#) 90086 New Mexico
[17:12](#) 90082 California
[18:46](#) 90091 California
[20:02](#) 90068 California
[21:31](#) 90067 California
[22:36](#) 90072 California
Photos at [22:04](#)
[24:46](#) 90100 California
[25:44](#) 90078 California
[26:49](#) 90077 California
[28:10](#) Holt Footage
[29:14](#) Villagomez Footage
[30:00](#) Barbershop Footage
[30:58](#) Compilation Footage

<https://www.youtube.com/watch?v=CrJlXfLHvIM>

FOUNTAIN HILLS == 2/6/18 Pt. II, these lights suddenly changed shapes seemingly dispersing the mist appearance.

- PUGSLEY GORDON == Published on Feb 6, 2018
- The light suddenly disappeared leaving jet streams. It appeared to have alternating color changes. Did anyone else see this? I saw it off the 87 near the dump. It was not in the flight pattern from normal for the Phoenix airport. It moved slow across the night sky.

- <https://www.youtube.com/watch?v=xtnG0PGMBx4>

- =====

Alien? Watch until end Light night sky

- nicole S == Published on Feb 6, 2018
- Accidental video take of light seen moving around in sky. When I slow it down it looks like an alien (which I never believed in before). Also the sound was my boyfriend and his wife's voice. [*JimO –her boyfriend has a wife?*]
- https://www.youtube.com/watch?v=C_Lsam1go98

Something in sky over northern Utah

kionie1 == Published on Feb 6, 2018



ENLARGED &
BRIGHTENED

Was following a bright light in the sky, when it shot off leaving a trail behind it.

<https://www.youtube.com/watch?v=xDPllQD3-Hk>

Did I just see a UFO in Las Vegas February 6, 2018

“Escape Your Cubicle” // Published on Feb 6, 2018

I go outside about 6:20pm this evening and look up to see a weird glowing orb way up in the sky, probably out of the atmosphere, and moving too slow to be a plane or satellite it seems like. The object looks "fuzzy" and not crisp like the light coming from the stars or planes at the time. What is the weird fog that is around it? The sky is clear. I didn't think this was a rocket because they normally launch from CA or FL and I wouldn't think they would be visible from here. I check the news, and notice a SpaceX rocket launched from Florida this evening. It must be that! Crazy to see it from Vegas. Must have already gone around Earth once and coming back around this way? Doesn't seem to be moving in right direction if I am seeing it directly after it's launch. And this is about 7pm I am seeing it in the sky in this video. Cool!

- [Engine start is at 3:45 into the video]

<https://www.youtube.com/watch?v=oKaS0Nlr0QQ>

Cubicle's site comments

- random viewer == I seen the exact thing last night i live in western Colorado....it was about 7:40 our time.....my phone was shut off and by the time i got it turned back on it looked like it got blown up and started falling to the ground.
- Tommy Zito == I saw the same exact thing in Denver at 7:31 pm mtn time!!!!
- Sean Turpin == I saw it in St George, Utah!
- <https://www.youtube.com/watch?v=oKaS0Nlr0QQ>
- =====
- Ian Oeder == I saw this last night [Feb 6] @7:30 pm in Arizona. I was coming home from Kingman and went through the Coyote Pass and saw what I thought was the moon through clouds. Although it was a clear night. My battery was dead so I couldn't record what I saw. If [website] wants to call me my # is 805 521 7273. My name is Ian. Or anyone else who wanrd to talk or text. It looked like a big iridescent vapor trail that glowed in the night sky.
- <https://www.youtube.com/watch?v=6mPCb0mTHLA&t=286s>

<https://www.space.com/39620-skywatchers-see-spacex-falcon-heavy-third-burn.html>



<https://i.stack.imgur.com/28q7H.jpg>

Elon Musk SpaceX - Final Thrust To Mars

[EXCELLENT CLEAR VIEW OF IGNITION, FULL BURN]

Victor Valley News Inc. // Published on Feb 6, 2018

6:30 p.m. February 6, 2018 from the City of Victorville [CA]

**TWO SECONDS
AFTER IGNITION**

One of the BEST full
videos of engine ignition

OVERBRIGHT [NOTE 'BUTTERFLY']

<https://www.youtube.com/watch?v=BJ446VfBIHE>

Object/UFO over Anthony, NM and/or El Paso, TX on 2/6/2018

- SeñorMSanch33 // Feb 9, 2018
- While heading west through the Anthony Gap in southern New Mexico at around 7:25 pm on 02/06/2018, I noticed an object in the sky sitting stationary above Anthony, New Mexico and/or west El Paso, Texas.
- It was a completely clear night, with no clouds, but the object still emitted hazy lights shining in opposite directions. The object sat stationary in the sky, but after about 5 minutes of noticing the object it started moving slowly to the east for about 1-2 minutes.
- It then re-positioned the directions in which the lights were shining to form roughly a 40 degree angle "V". It then took off to the east and the lights it was emitting were gone.
- The pictures were taken from an angle that was north of the object, therefore, to the right of the pictures is west and to the left of the pictures is east.
- <https://www.youtube.com/watch?v=oifAdI6ioFs>

A photo the Canadian pro [golfer Graham DeLaet] posted to his Twitter account Tuesday night showed a light in the night sky. "Just saw a UFO in Ixtapa, Mexico," he wrote. "No other explanation. Freakiest thing I've ever seen."

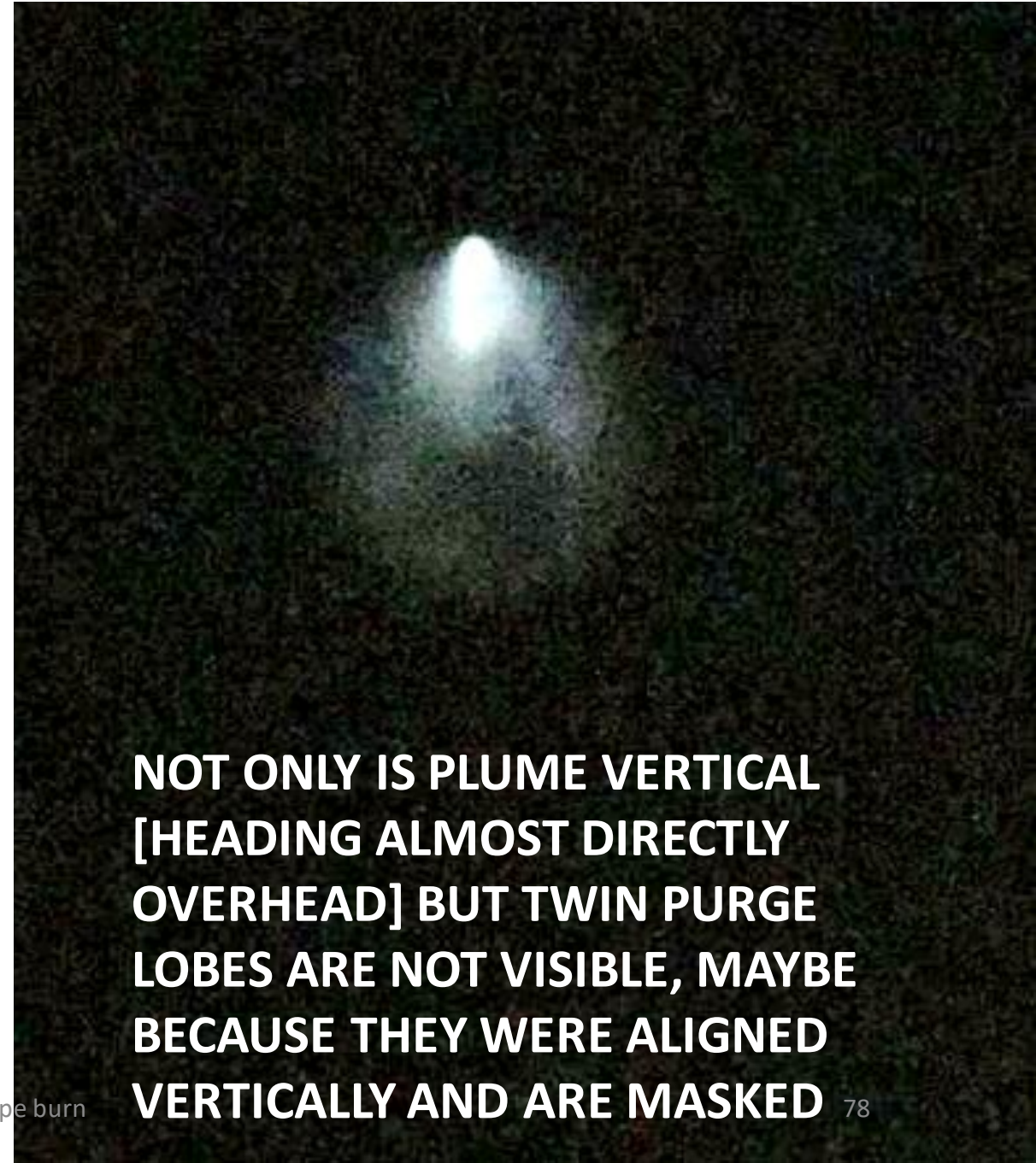
- Joan Lake @JoanLakeGolf == Seriously just saw this SW of Rancho Murieta CA about an hr ago! Moving slowly south & and as it got low on horizon, it formed a giant plume. Awesome!
- Melissa Bellomo @missbell512 == Around 8:30 PM in #scottsdale #arizona we spotted a cloudy light in a clear sky, as it was moving it fanned out and then disappeared. We think it was a #meteor but not sure. It was beautiful
- <http://www.golf.com/extra-spin/2018/02/07/graham-delaet-reports-ufo-sighting-freakiest-thing-ive-ever-seen>
- Russian press reports his sighting -- <https://vistanews.ru/science/209944>



Golfer reports spotting it from tournament in Mexico, and the photo he tweeted had the rocket's orientation **very different.**



Falcon Heavy escape burn



**NOT ONLY IS PLUME VERTICAL
[HEADING ALMOST DIRECTLY
OVERHEAD] BUT TWIN PURGE
LOBES ARE NOT VISIBLE, MAYBE
BECAUSE THEY WERE ALIGNED
VERTICALLY AND ARE MASKED**

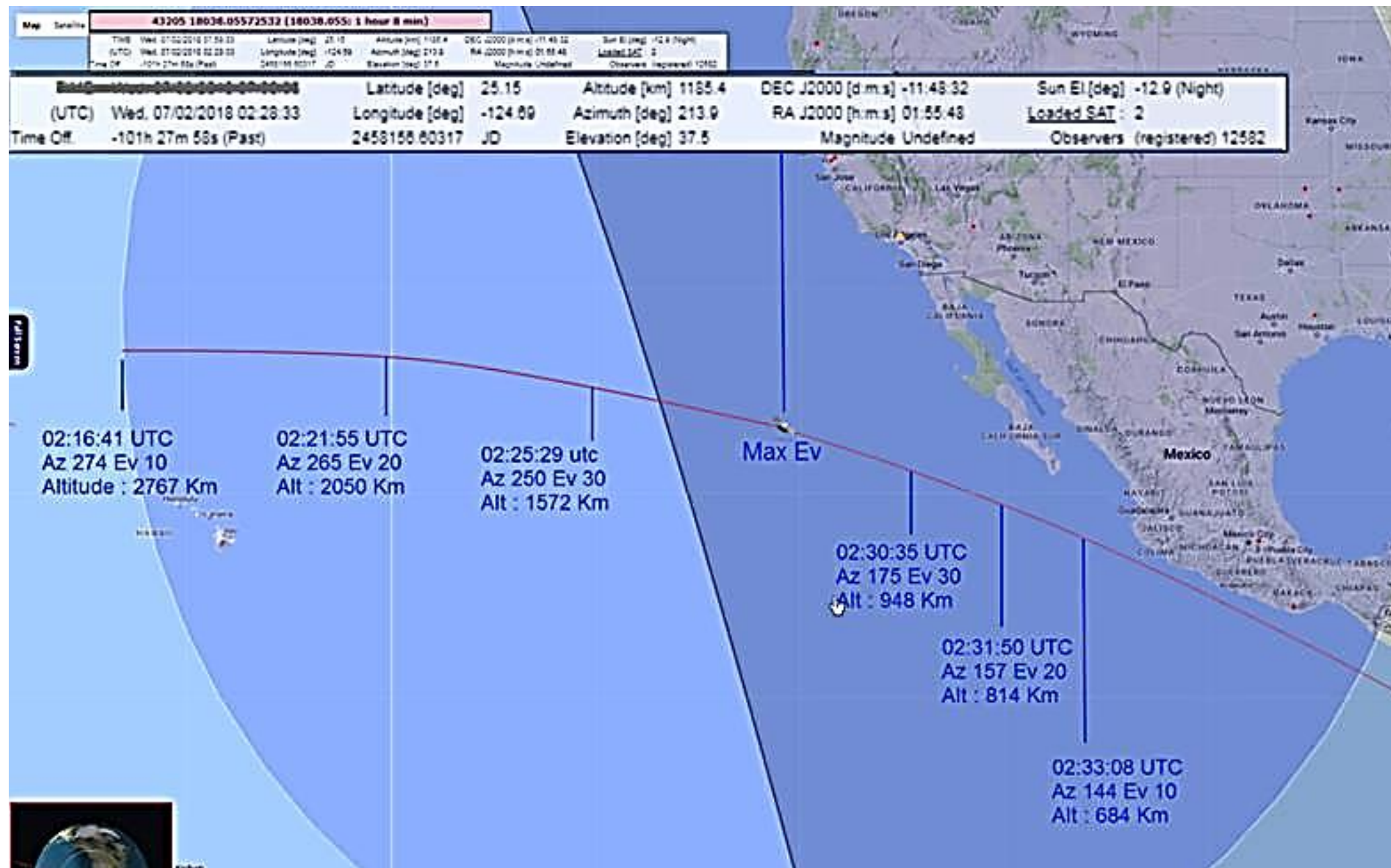
ALL US OBSERVERS WERE LOOKING SOUTH

ROCKET
BURN



**SO FOR EVEN BETTER VIEWS
FROM MORE DIRECTLY
UNDER THE FLIGHT PATH,
WE SHOULD LOOK SOUTH.**

SPANISH FOR 'UFO' IS 'OVNI'.



Courtesy
Ravi Jagtiani

¿QUE ES LO QUE SE VIO AYER EN LOS CIELOS DE MEXICO? ¿FUE UN OVNI? FEBRERO 2018

by melodicspirit07

¿QUE FUE LO QUE SE VIO AYER EN LOS CIELOS DE MEXICO? durante el dia de ayer 6 de febrero muchas personas de un conocido barrio de la ciudad de mexico obrservaron por la noche un extraño avistamiento luminiscente, lo que mucha gente decia que podia llegar a ser un ovni e incluso un misil militar....

What was seen yesterday in the skies of MEXICO? Yesterday Feb 6 many people from a well-known neighborhood of Mexico City observed at night a strange luminescent sight, which many people said could be a UFO and even a military missile....

<https://www.youtube.com/watch?v=HqhCkc-36lE>

Luna Martinez ortega == Una medusa voladora [**a flying jellyfish**]

OVNI captado en Tecalitlán Jalisco Mexico 06/02/2018 // el1erpandillero



https://www.youtube.com/watch?v=Cc3_5qf2pgY

Falcon Heavy escape burn

Jalisco

Un pequeño objeto fue captado en el sur de Jalisco sin saber su procedencia original.

A small object was captured in the south of Jalisco without knowing its actual origin.

Marcos Herrera == Si parecia , pero de echo el despegue del cohete que isieron y se logro ver hasta allí.

If it seemed so, but from the echo the takeoff of the rocket that [??] and it was able to see it there.



OVNI visto en MAZATLÁN resultó ser el FALCON HEAVY de SpaceX

OVNI visto en MAZATLÁN resultó ser el FALCON HEAVY de SpaceX



**ORIENTATION OF
DIRECTION SHOWS
OBSERVER MUCH
CLOSER TO UNDER
THE TRACK**



0:24 / 1:23



<https://www.youtube.com/watch?v=fX7EYxRQPW0>

MAZATLAN

- Jezuz Ozuna Ozuna == Yo lo vi y la luz que irradiaba ese punto hacia abajo, bajaba lenta como si algo como humo bajaba en forma de triangulo Δ . Y si fuera luz lo que bajada la luz no vieja lentamente.
- **I saw it and the light that radiated from that point downward, slowly descended, as if something like smoke it descended in the form of triangle Δ . And if it were light what lowered the light [??] slowly?**
- Jezuz Ozuna Ozuna == Osea que no creo que sea luz que destellaba un misil. No creo en ivnis, eso fue otra cosa.
- **[??] I do not think it is light that a missile gave off. I don't believe in UFOs, that was something else.**

¿Qué fue lo que se vio ayer en los cielos de México? 2018

¿Qué fue lo que se vio ayer en los cielos de México? 2018



// Gabehash //
159,820 views
943 comments

ALMOST
DIRECTLY
UNDER
ORBITAL
TRACK

GABE  HASH

WWW.GABEHASH.COM



1:43 / 4:32



https://www.youtube.com/watch?v=PT_KmUmChIM

Gabehash

- El día de ayer 6 de febrero de 2018 varias personas presenciaron un objeto volador de no identificado en diferentes partes de México y muchos lo describieron como un objeto de color azul luminoso. En redes sociales muchos han comenzado a especular que podría tratarse de una nave extraterrestres, otros conspiradores que podría ser algo parte del proyecto Blue Beam y que como siempre el gobierno quiere tapar la información.
- **Yesterday, February 6, 2018 several people witnessed an unidentified flying object in different parts of Mexico and many described it as a luminous blue object. In social networks many have begun to speculate that it could be an alien spacecraft, other conspirators that could be something part of the Blue Beam project and that as always the government wants to cover up the information.**
- (Read more <http://www.gabehash.com/>)

Avistan extraño objeto luminoso en la costa michoacana y Colima



Avistan extraño objeto luminoso
en la costa michoacana y Colima

<https://www.youtube.com/watch?v=CV5S8L0x3gU>



0:27 / 2:26

Falcon Heavy escape burn



Quadratin Colima == Published on Feb 7, 2018

COAHUAYANA, Mich., 7 de febrero de 2018.- Un extraño objeto luminoso de gran tamaño fue avistado en el cielo de la costa / sierra nahua michoacana y en las regiones aledañas, incluyendo el puerto de Lázaro Cárdenas y al Estado Colima, causando admiración y temor entre quienes pudieron observar este hecho ocurrido aproximadamente a las 20:30 horas de este martes.

Testigos del evento que también en redes sociales fue calificado como un fenómeno luminoso, coinciden en señalar que el objeto fue visto saliendo de la mar, primero como un punto luminoso que tomó altura, y luego parecía que iba a caer, para enseguida surgir un resplandor que lo hizo más notorio, ganando altura después hasta desaparecer en el firmamento.

February 7, 2018.-A strange luminous object of great size was sighted in the sky of the coast/Sierra Nahua Michoacana and in the surrounding regions, including the port of Lazaro Cardenas and the state of Colima, causing admiration and fear among those who could observe. This event happened at about 20:30 hours this Tuesday.

Witnesses to the event that also was described in social networks as a luminous phenomenon, agree in pointing out that the object was seen coming out of the sea, first as a luminous point that gained altitude, and then it seemed that it was going to fall, to immediately emerge a glow that It made it more noticeable, gaining altitude afterwards until it disappeared in the firmament.

Quadratin Colima part 2

En redes sociales el fenómeno fue reportado en grupos de WhatsApp de la costa sierra / nahua michoacana, del puerto de Lázaro Cárdenas, de Tecomán en Colima, y hasta en ciudad Guzmán, Jalisco, con todo tipo de comentarios de que era un cohete lanzado por la Nasa, un misil de Corea del Norte, un meteorito, un ovni, un fenómeno luminoso, y presagios como supuestos hechos similares ocurridos antes de fuertes sismos en otras partes del mundo.

Hasta el momento ninguna autoridad se ha manifestado ante este hecho que se vivió en la noche del martes. Más información en <https://colima.quadratin.com.mx/>

In social networks the phenomenon was reported in groups of WhatsApp of the Coast Sierra/Nahua Michoacana, the port of Lazaro Cardenas, Tecoman in Colima, and even in Ciudad Guzmán, Jalisco, with all kinds of comments that it was a rocket launched by Nasa , a missile of North Korea, a meteorite, a UFO, a luminous phenomenon, and omens like supposed similar events occurred before strong earthquakes in other parts of the world.

So far no authority has shown up before this event that thrived Tuesday night. More information at <https://colima.quadratin.com.mx/>

Quadratin Colima part 3, Michoacan

- Juan Pablo Robles Ceceña == Ayer lo miramos a la misma hora pero en compostela nayarit desgraciadamente no lo grabamos pero me toco ver mas que eso la luz estaba creciendo mas hacia abajo. Pero algo venia como un avion y esa cosa que alusaba se fue hacia arriba y se desaparecio

Yesterday we looked at the same time but in Compostela Nayarit unfortunately it was not imaged but I got to see more than that the light was growing down. But something came like a plane and that thing that used to go up and disappeared.



WHY THE REFERENCES TO SOMETHING 'GROWING DOWN'?

PERHAPS BECAUSE
ANY LOCATION NEAR
GROUND TRACK MADE
THE ROCKET PLUME
NEARLY VERTICAL AND
WHEN FIRST FORMED IT
VISIBLY EXTENDS DOWN
TOWARDS THE HORIZON

Objeto luminoso en cielo atotonilco el alto jalisco hoy 6feb18

https://www.youtube.com/watch?v=_vmay5SJW7s

inexplicable luz brillante en el cielo

Janette Diaz == Published on Feb 6, 2018

UNEXPLAINABLE
BRILLIANT LIGHT
IN THE SKY

[LOCATION
NOT GIVEN]



<https://www.youtube.com/watch?v=vC4Q7QFsuhg>

Falcon Heavy escape burn

Janette Diaz comments

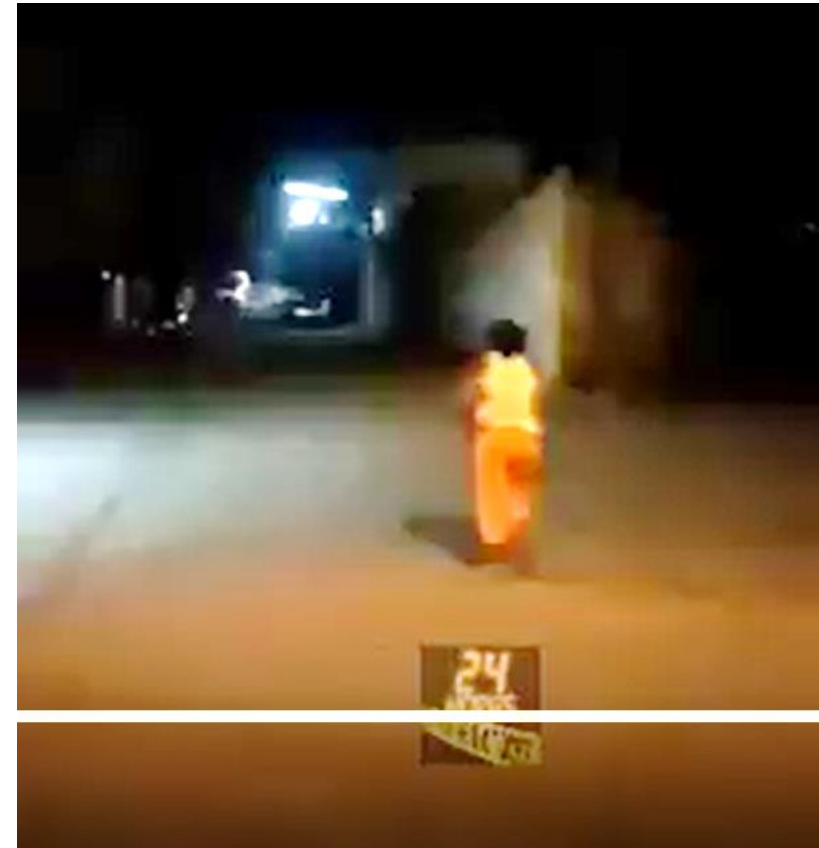
- PATSY MI AMOR LUKE GAME == En Guadalajara tambien se vio y se veía desde las 6 de la tarde aun todavia hasta las 8:40 aun se veia en el cielo y fue desapareciendo y al parecer fue lo del cohete Tesla de Musk, Starman
- In Guadalajara it was also seen and looked from 6 pm even still until 8:40 still was seen in the sky and was disappearing and apparently was the Tesla rocket of Musk, Starman
- Damaris Bautista Ponce == No te espantes fue el Falcón heavy que lanza space x.
- Do not be frightened, it was the Falcon Heavy that launches space X.

Objeto no Identificado en Iguala y Chilpancingo México

24 HORAS NICARAGUA Feb 6, 2018

Un objeto no identificado que se logró ver en Iguala y Chilpancingo, provoca asombro y miedo en los pobladores que presenciaron este inusual caso en los cielos de esta zona del estado de Guerrero en el país Azteca.

STREET VIEW [LEFT] PANS UP TO DIRECT OVERHEAD PASS OF ROCKET [RIGHT]



<https://www.youtube.com/watch?v=jGilq52F2nY>

Falcon Heavy escape burn

Iguala – nearly direct overhead pass



More Mexico links

- <https://www.youtube.com/watch?v=hlcHKteQjns> !!
- <https://www.youtube.com/watch?v=KwxN1KVZK9U>
- <https://www.youtube.com/watch?v=xTxiRR9FpZs> !

Hoax video

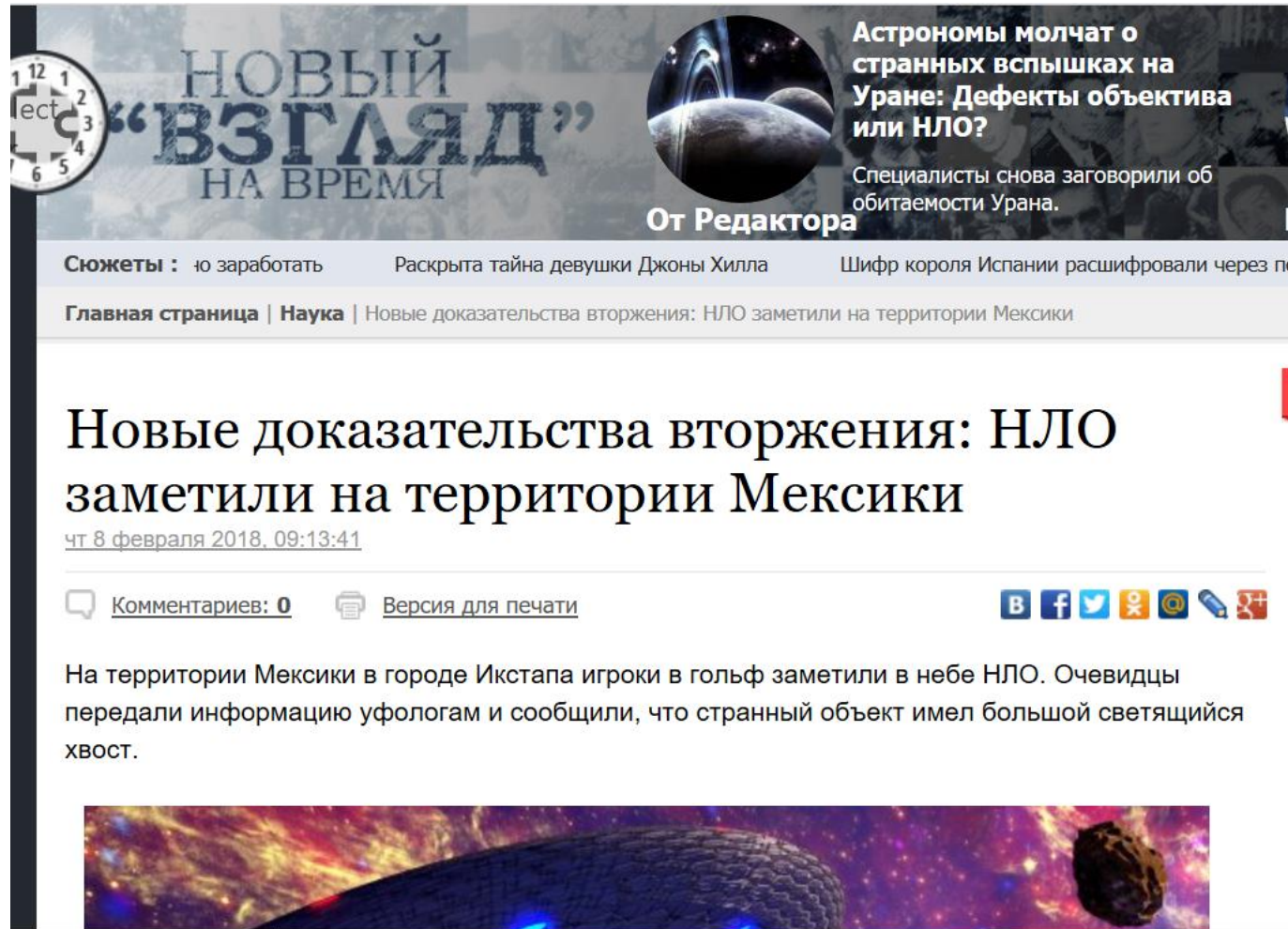
LUZ EXTRAÑA EN EL CIELO ¿ALGUIEN LA VIO?

By “MIRALOS LOS VIDEOS MÁS VISTOS” /// Published on Feb 7, 2018

[used Dec video of VAFB SpaceX launch over Los Angeles]

<https://www.youtube.com/watch?v=yaKGLVee7iY>

RUSSIAN PRESS REPORTS UFO FLAP IN MEXICO



12 1 2 3 4 5 6 7 8 9 10 11 12

НОВЫЙ
“ВЗГЛЯД”
НА ВРЕМЯ

Астрономы молчат о странных вспышках на Уране: Дефекты объектива или НЛО?
Специалисты снова заговорили об обитаемости Урана.

От Редактора

Сюжеты : ю заработать Раскрыта тайна девушки Джоны Хилла Шифр короля Испании расшифровали через пол


Главная страница | Наука | Новые доказательства вторжения: НЛО заметили на территории Мексики

Новые доказательства вторжения: НЛО заметили на территории Мексики

чт 8 февраля 2018, 09:13:41

Комментариев: 0 Версия для печати

На территории Мексики в городе Икстапа игроки в гольф заметили в небе НЛО. Очевидцы передали информацию уфологам и сообщили, что странный объект имел большой светящийся хвост.



<http://www.vladtime.ru/nauka/638134>

RUSSIANS REPORT 'UFO' STRAIGHT

На территории Мексики в городе Икстапа игроки в гольф заметили в небе НЛО. Очевидцы передали информацию уфологам и сообщили, что странный объект имел большой светящийся хвост.

On the territory of Mexico in the city of Ixtapa golfers spotted a UFO in the sky. Eyewitnesses conveyed the information to ufologists and reported that the strange object had a large glowing tail.

Видеоролик светящегося НЛО в Мексике посмотрели более чем 20 000 тысяч пользователей. Некоторые даже заявили, что похожий инопланетный объект видели в соседнем американском штате Аризона, который граничит с Мексикой.

The video of the glowing UFO in Mexico was watched by more than twenty thousand users. Some even said that a similar alien object was seen in the neighboring American state of Arizona, which borders on Mexico.

SUMMATION

- 1 FIRST-RECOGNIZED LONG-DURATION UPPER STAGE ON-ORBIT BURN
- 2 CLEAR SEQUENCE OF TWIN-LOBED PLUMING PRE-BURN
- 3 GEOGRAPHIC DISPERSION OF WITNESSES GAVE VIEWS FROM OFF-TO-SIDE AND FROM BELOW, ALLOWING 3-D MAPPING OF PLUME STRUCTURE
- 4 PLUME LENGTH WITH KNOWN EJECTION VELOCITY GIVES SCALE YARDSTICK
- 5 TWIN-PLUME 'BURN START' MARKER WITH DISPLACEMENT THROUGH BURN STOP GIVES UPPER STAGE ACCELERATION
- 6 ACCELERATION WITH KNOWN THRUST GIVES VEHICLE MASS
- 7. OTHER PERFORMANCE PARAMETERS ALSO DERIVABLE
- 8. MOST OBSERVERS PERCEIVED AND REPORTED APPARITION AS A 'UFO'
- 9. CLASSIC RANGE OF MISPERCEPTION/MISINTERPRETATION ERRORS
- 10. NEVERTHELESS, SIGNIFICANT VALUE CAN BE EXTRACTED FOR ANALYSIS

ON RIGHT, ZUMA F9S2 'SPINNING SPIRAL' OVER KHARTOUM [LOW IN SW SKY MOVING RT-TO-LEFT] VERSUS STARMAN FHS2 ON LEFT [FROM S. CALIFORNIA IN SW SKY MOVING RT-TO-LEFT] TWIN COOL-DOWN DUMP; F9S2 PREPARING BRIEF RETROGRADE BURN, FHS2 PREPARING MAJOR POSIGRADE BURN

CAN THIS MISSION PROVIDE
THE KEY TO UNLOCKING THE
MYSTERIES OF SOME PREVIOUS
UNEXPLAINED MISSION EVENTS?

Falcon Heavy escape burn

APPENDIX 1 – IMAGE SEQUENCE

- Interpretation of what each scene is showing
- TBS



Falcon Heavy escape burn



Falcon Heavy escape burn



Falcon Heavy escape burn



Falcon Heavy escape burn



Falcon Heavy escape burn



Falcon Heavy escape burn



Falcon Heavy escape burn



<https://www.youtube.com/watch?v=sHSlwMd3pkM>

Falcon Heavy escape burn



Falcon Heavy escape burn



Falcon Heavy escape burn

APPENDIX 2 – Oberg reports on ground observations of missile/space plume/venting events

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CONTEXT OF THIS REPORT AMONG OTHER SIMILAR EVENTS

Accidental observation of KYSS-6 from US segment of ISS [Oct 2013]

- http://satobs.org/seesat_ref/misc/Russian_Missile_Launch_Viewed_from_ISS_2013.pdf
- http://www.jamesoberg.com/Topol_Test_with_images.pdf

Observation of Plesetsk launch accidentally seen from ISS [june 15, 2014]

- http://www.jamesoberg.com/ISS_crew_spots_second_russian_rocket_rev_c.pdf

Manned Soyuz launch observed from ground, air, and space [dec 2015]

- http://satobs.org/seesat_ref/misc/Soyuz_launch_4.pdf

Long March-5 [launch #2] failure observed from Philippines [July 2017]

- <https://forum.nasaspaceflight.com/index.php?action=dlattach;topic=42798.0;attach=1469451;sess=1180>

Falcon-9 second stage deorbit burn/ fuel dump over Saudi Arabia [Feb 2017]

- <https://forum.nasaspaceflight.com/index.php?action=dlattach;topic=43976.0;attach=1469348;sess=1180>

Meridian-5 launch failure and subsequent downrange observations [Dec 2011]

- http://satobs.org/seesat_ref/misc/meridian_crash_2011_draft.pdf

Mass panic in California over SLBM test [Nov 7, 2015]

- http://satobs.org/seesat_ref/misc/misperceiving_missiles.pdf

“Norway Spiral” Bulava test [Dec 2009]

- http://satobs.org/seesat_ref/misc/Norway_Spiral_--_15_FAQS_final.pdf

Other Kapustin Yar launch reports

KYSST-12 [2015] http://satobs.org/seesat_ref/misc/KYSS-12.pdf

KYSST-11 [Aug 2015] <http://www.jamesoberg.com/KYSS-9.pdf>

KYSST-8 [May 2014] <http://www.jamesoberg.com/140520-topol-ky.pdf>

[Oct 2013] <https://www.nbcnews.com/science/space/ufo-astro-ghost-find-out-what-spooky-space-cloud-really-f8C11390533>

KYSST-4 [June 2012]
<http://www.jamesoberg.com/Unusual Russian missile test sparks mideast UFO flap.pdf>

And <https://www.livescience.com/20862-spiral-ufo-russian-missile.html>

And <http://lists.friends-partners.org/pipermail/fpspace/2012-June/030907.html>

KYSST-3 [Dec 2009] <http://blogs.discovermagazine.com/badastronomy/2009/12/12/another-russian-rocket-spiral-lights-up-the-sky/#.WmePBudG1PY>

Other reentry swarm reports

- Bahamas, Jan 1985 http://satobs.org/seesat_ref/Oberg/850111-Bahamas_spaceship.pdf
- Eastern US, March 1968 http://satobs.org/seesat_ref/Oberg/680304-Eastern-US.pdf
- Baltic, Feb 1976 http://satobs.org/seesat_ref/Oberg/760211-baltic_bolide.pdf
- Zimbabwe, 1994 http://satobs.org/seesat_ref/Oberg/940914-africa-pdf1.pdf
- Chile-Argentina Apr 2013 http://www.slate.com/blogs/bad_astronomy/2013/05/11/video_satellite_re_entry_looks_like_ufos_over_south_america.html
- France, Nov 1990, http://satobs.org/seesat_ref/Oberg/901105-French_wave.pdf
- Yukon, Dec 1996 <http://badufos.blogspot.com/2012/04/top-ten-ufo-case-yukon-canada-1996.html>

Satobs 'memorable decays' <http://www.satobs.org/decay.html#pastdecays>

Six decades of worldwide observations of spacecraft fuel dumps and engine plumes
http://satobs.org/seesat_ref/misc/Space_clouds-Strange_Spinoff_of_the_Space_Age.pdf

'Space spirals' as normal Soyuz payload separation burns [Tomsk]
http://satobs.org/seesat_ref/misc/tomsk_spiral_ufo_2006.pdf

Falcon-9 second stage Australia 'spiral' [June 2010]
<https://forum.nasaspaceflight.com/index.php?action=dlattach;topic=43976.0;attach=1469335;sess=1180>

Soviet 'Space War Games' Spark UFO panics across northeastern Asia [june 18, 1982]
<http://www.jamesoberg.com/china-em-ufo-1982-draft-2.pdf>

Soviet SLBM test seen from civilian airliners and Finland [sep 7, 1984]
<http://www.nbcnews.com/id/24636796/#.WmKpxExFxN4> and
www.jamesoberg.com/oberg_minsk%20pages.pdf and
http://www.jamesoberg.com/oberg_minsk%20pages.pdf

'Petrozavodsk Jellyfish' [kosmos-955 from Plesetsk], Sep 1977
<http://www.jamesoberg.com/ufoosm-petrozavodsk.PDF>

Ground observations of Soviet FOBS warhead tests in 1967-8
: http://satobs.org/seesat_ref/misc/soviet_1967_wave.pdf

rocket firings over South America of Russian launches to Molniya orbit [1980s]:
http://satobs.org/seesat_ref/misc/molniya_clouds_over_south_america.pdf

Satellite reentry fireball swarms perceived as 'giant spaceships'
http://www.jamesoberg.com/1963_kiev-fireball-swarm-rev-B.pdf

Historical
overview of
previous
observations

Earlier published articles on observations

- 1985 conference – Calibrate testimony by misperceived space events
http://www.debunker.com/texts/black_box_approach_to_ufo_perceptions.html
- 1983 [FATE] – Soviet rockets spark S. American UFOs http://www.debunker.com/texts/giant_ufo.html
- 1986 [Skeptical Inquirer] – Sighting of Japanese fuel dump over US east coast.
https://www.csicop.org/si/show/great_east_coast_ufo_of_august_1986
- 1994 [OMNI] – Soviet ufologists help disguise military missile/space events
<http://www.debunker.com/texts/soviet.html>
- 1982 – Soviets cover up FOBS tests as UFOs http://www.debunker.com/texts/soviet_coverup.html
- 1988 [Sky & Telescope] – Space events perceived as UFOs http://www.jamesoberg.com/88_sky-tel_ufo.pdf
- 1992 [MUFON] – French 1990 wave was caused by booster reentry fireball swarm
http://www.jamesoberg.com/france_flap_ufo.pdf and
http://satobs.org/seesat_ref/Oberg/901105-French_wave.pdf
- 1999 [space.com] Misinterpretation of satellite reentries
http://www.jamesoberg.com/space_vehicles_arrive_but_whose.pdf
- 2000 [space.com] – Chinese space activities spark UFO reports
http://www.jamesoberg.com/sky_dragons_behind_the_media_curtain.pdf and
<https://web.archive.org/web/20100725054951/http://www.aolnews.com/weird-news/article/space-expert-china-ufos-likely-from-this-world/19560026>
- 2000 [space.com] – NOSS triplets spark ‘triangle UFO’ reports
http://www.jamesoberg.com/some_flying_triangles_may_be_satellite_triplets.pdf
- July 2002 [ASTRONOMY magazine] – ‘Close encounters’ with satellites
<http://www.jamesoberg.com/2002julycloseencounters.pdf>
- 2010 – Did missile test spark China UFO reports? <http://www.nbcnews.com/id/34886772/#.WmODijdG3y0>
- Progress-TM21 [1994] ‘pilot UFO sighting’ <http://www.zipworld.com.au/~psmith/pilot-ufos.html>

Reports in work

- Three decades of Japanese HEO injection burns over Argentina
- ICBM over NW Siberia [oct 2017]
- Measuring the KYSS trajectory from ground observations
- Zuma and SpaceX
- “Space clouds” miscellany part 2
- 2017 Soyuz launch spectacular
- July 23, 2017 --- Sinkiang ABM from commercial airliner
- May 5, 1981 – Israeli missile seen from Salyut SE of South Africa?
<http://www.jamesoberg.com/cosmonauts-see-launches.pdf>
- [2016] China ‘sky spirals’ – help needed!
http://www.jamesoberg.com/china_space_spirals-help_needed_1977.pdf

Space/rocket observations from other specialists

- Ted Molczan
- 2000 [space.com] – Platov: Most Russian UFO reports are rockets
http://www.jamesoberg.com/russian_report_says_most_ufos_are_rocket_launches.pdf
- 2000 [Anomalia] – Canary Island UFOs were Trident SLBM tests
<https://web.archive.org/web/20000305120410/http://www.anomalia.org/canen.htm>
- Tim Printy, “THE ROCKET'S RED GLARE”, 1999,
<http://www.astronomyufo.com/UFO/rocket.htm>
- 2017 – Sheaffer – Jimmy Carter sighting was NASA barium cloud launch
<http://badufos.blogspot.com/2017/01/jimmy-carters-ufo-sighting-was-it-venus.html>