



# Long March 5 launch failure July 2, 2017

**CAN SERENDIPITOUS  
DOWNRANGE  
OBSERVATIONS CAST  
ANY LIGHT ON CAUSE?**

Final review draft

James Oberg

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Dec 28, 2017



# NOT MERELY IDLE VOYEURISM

- LongMarch 5 was greatest Chinese space setback in decades
- Extended accident investigation process results still unclear
- Value of accidental eyewitness descriptions/images unappreciated
- Future Philippines observations of Hainan launches inevitable
- Far better communications with Philippines groups needed
- Significant value to calming local public anxiety
- Significant value to enhancing Philippine public interest in spaceflight
- Major improvements needed in level of detail in witness reports

# Approach

- Pre-launch alerts, timeline, significance of mission
- Serendipitous opportunity for downrange observations
- Sequence of launch and detection of failure
- Onboard rocketcam observations
- Mission Control Center opportunistic data acquisition
- Accidental downrange illumination conditions
- Collection of observations from Luzon as 'UFO'
- Characteristics of plume observations
- Totally inadequate communication with Philippines groups
- Analogous previous downrange launch failure observations
- Eyewitness description features that could be helpful

# Past occurrences of potentially helpful insights from eyewitness views of missile/space mishaps

- Meridian launch failure third stage explosion [2011]
- Russian ICBM launch failure [stage 3] seen from Norway [2009]
- Soviet 'Molniya-orbit' insertion anomaly seen from South America
- Space clouds
- Russian satellite launch failure seen from Iceland
- Jan 9, 2018 Zuma launch mystery

# Timeline

- Wenchang launch site – liftoff July 2, 2017 11:23 UTC
- Local time = UTC + 8 hrs [7:23 PM]
- Local sunset = 7:19 PM    az 295, alt -002
- Nominal ascent profile - TBS
- TBS
- TBS
- Observations from Luzon [Philippines] ~ 7:30 PM [11:30 UTC]
- Local sunset TBS

# Topics

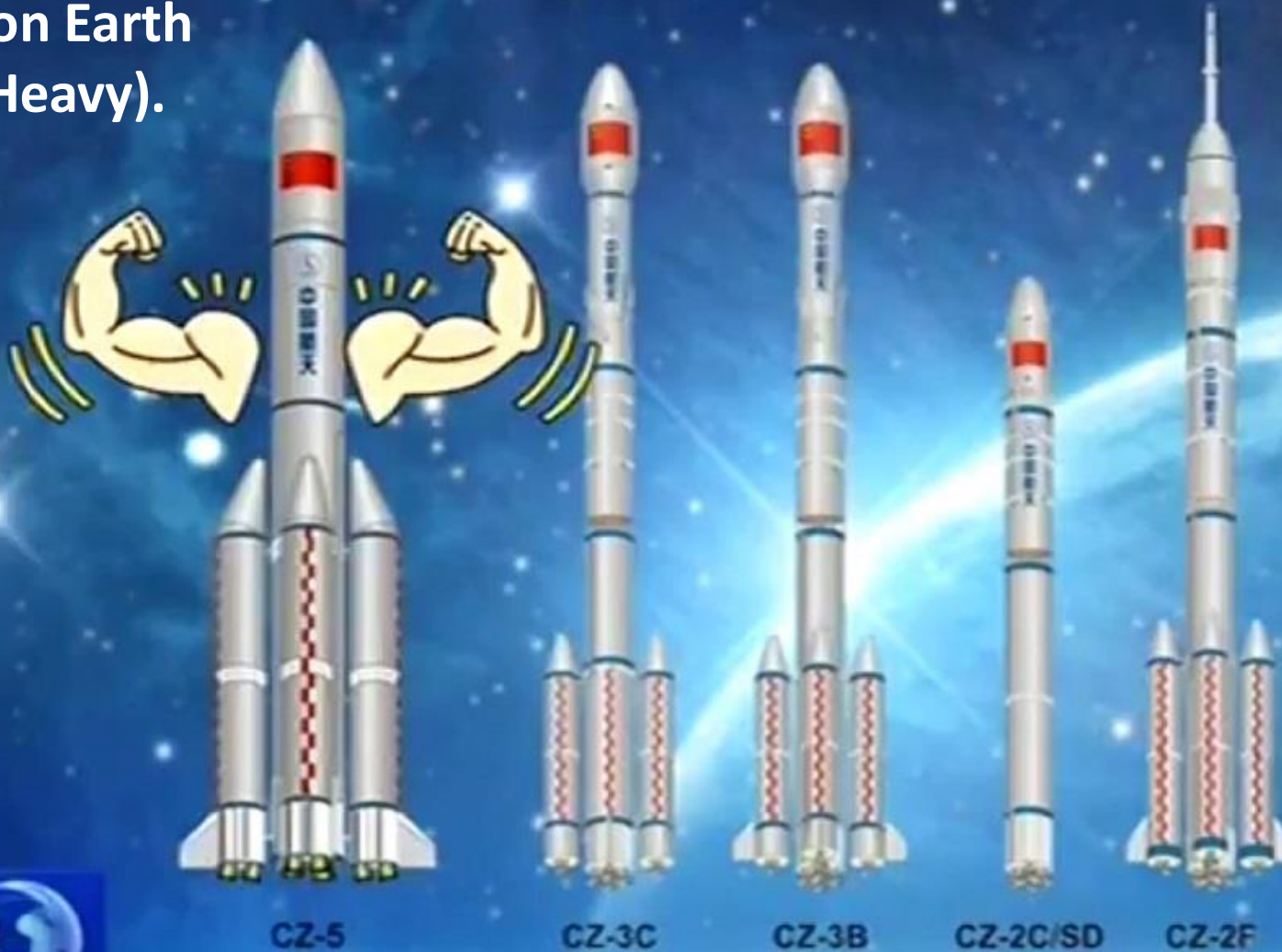
- Only second launch of new heavy booster that had posed major engineering challenges
- Implication – High potential for lurking design flaws
- Entirely new fabrication, transportation, and launch facilities had been developed in parallel
- Implication – High potential for inexperienced assembly and checkout teams to miss something or do something wrong
- Civilianized launch site saw significantly more open disclosure of operational data [plus rocketcam] during launch
- ELABORATE





Second most powerful  
launch vehicle on Earth  
(after Delta IV Heavy).

Previous vehicles  
including LM-3 used  
for Shenzhou human  
orbital missions



# Random factors favored opportunistic observations

- Launching eastwards near local sunset
- Ascent track passed near populated regions downrange
- Wide availability of pocketcams, mobile phones, cameras
- Easy access to internet
- While sky was dark for ground observers, over-the-horizon sun still illuminated space above approx. 200 km at that time in those places
- Clear weather
- Modern culture encouraged rapid reporting of weird lights in the skies
- No indication that any locals were aware of accidental opportunity



## Utility of ‘opportunistic observations’ – still unclear

- Usually handheld videos with rapidly varying zoom and orientation, rarely with stable reference points in field-of-view
- Only occasionally mentioned location, time of sighting
- Sometimes posting was of a video from another source
- Never any descriptions of direction of view, direction of object motion, except rare description relative to local landmarks [eg “it disappeared into the clouds” or ‘passed over the railroad’]
- Usually reported in terms of ‘UFO sightings’, with witnesses excited to imagine they witnessed alien visitors, and vocally contemptuous of ‘coverups’ by ‘official explanations’

# NAVAREA航行警報 NO.17-0427

南シナ海北部及び北太平洋西部、ロケット打ち上げに伴う危険区域設定  
NO.17-0427 発表日時：2017年06月30日 20時

SOUTH CHINA SEA, NORTHERN PART AND NORTH PACIFIC, WESTERN PART.  
ROCKET LAUNCHING. 021000Z TO 021300Z JUL. FOLLOWING RANGE CLEARANCE  
AREAS ESTABLISHED. AREAS BOUNDED BY

A. 19-07.2N 119-06.1E	19-10.5N 118-03.3E
19-37.4N 118-04.8E	19-34.1N 119-07.7E.
B. 18-45.3N 124-00.2E	18-52.2N 122-35.0E
19-19.0N 122-37.3E	19-12.2N 124-02.7E.
C. 15-22.9N 144-36.9E	15-48.7N 142-25.2E
16-41.6N 142-36.1E	16-15.7N 144-48.4E.

CANCEL THIS MSG 021400Z JUL.

Official advance  
warning of  
impact zones

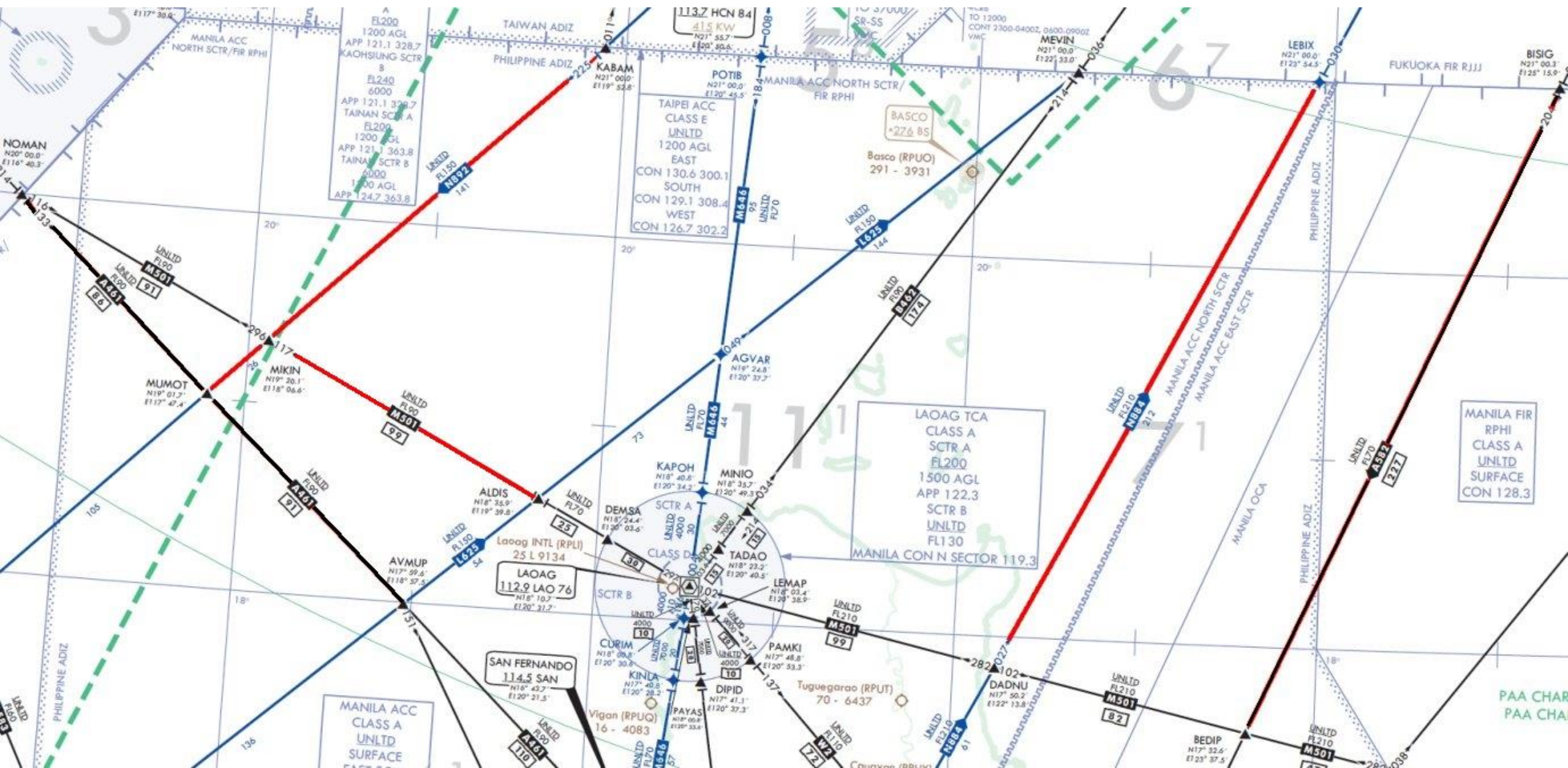


# Final notice of keep-out air routes

*NOTAM for CZ-5 resp. boosters and fairing debris*

**B2279/17** - DUE TO SPACEFLIGHT ACT OF ATM BUREAU OF CAAC, THE  
FLW RNAV RTE SEGMENTS CLSD:

1. N892 BET KABAM AND MUMOT ALTN RTE: POTIB M646 ABVAR  
DIRECT MAVRA -FL RESTRICTION : N892 LTD TO FL320, FL360 AND  
FL400 L625 LTD TO FL310, FL350 AND FL390
  2. M501 BET MIKIN AND ALDIS ALTN RTE: NOMAN A461 AVMUP  
DIRECT LAO AND VISE-VERSA
  3. N884 BET DADNU AND LEBIX ALTN RTE: CAB B462 LAO DIRECT LEBIX.
- 02 JUL 11:22** 2017 UNTIL 02 JUL 16:26 2017. CREATED: 30 JUN 03:04  
2017



# BOOSTER ASCENT SEQUENCE OF EVENTS

T+0s Liftoff

T+17s Pitch program initiated

T+174s Boosters separation

T+285s Fairing separation

T+465s MECO/1st stage separation/2nd stage ignition

T+753s SECO-1

T+1355s SEI-2

T+1714s SECO-2

T+1810s Spacecraft separation

Lissov: liftoff 19:23:23.425 Beijing Time.



# LAUNCH



Following discussions were made possible by unprecedented Chinese openness [to show off their vaunted new booster and launch site] with live television showing readable data screens in the mission control center.

The unhappy results of the next ten minutes may mean it will be a long time before comparable openness is displayed in real time again.

If the discussion is too jargony, skip ahead to the actual failure event.

# Actual real-time comments from space enthusiast website 'nasaspaceflight.com'

+850 sec == Jarnis: Anyone happen to have any timeline for this? The first stage sure burned for a loooooong time. Wikipedia claims 480 secs burn time for the first stage, but I'm fairly sure I saw on screen count (of seconds?) of well over 550 before separation.

Bart H: Spaceflight 101 says first stage sep was at T+570 s (planned time was T+465 s) and second stage shutdown at T+788 s (planned time was T+753s). Is there a problem?

- Frensel [+42 min] = It seems that the second stage is malfunctioned.



# Officially a 'success' for almost an hour.

- +46 min
- 新华社：长征五号遥二火箭飞行出现异常，发射任务失利。
- "Xinhua News Agency: "CZ-5 Y2, launch mission failure"
- Official announcement of failure:  
[http://news.xinhuanet.com/politics/2017-07/02/c\\_1121250175.htm](http://news.xinhuanet.com/politics/2017-07/02/c_1121250175.htm)

# Discussion [continued]

- +52m Mighty-T: “CGTN reports that the issue appeared at around 20min into the flight”
- Steven Pietrobon: “Second ignition was to occur at T+1355 seconds (T+22:45 minutes). My last screen shot of the control room was at T+1020 (T+17 minutes). Going back to the YouTube recording, the last shot was at T+1091 seconds (T+18:11 minutes), 264 seconds (4:24 minutes) before second ignition.”
- Galactic Penguin: “Actually I think the core stage is probably where all the things started. The velocity curve seems to be *dropping* quickly by the time the 2nd stage was flying free. SEI-1 was almost 2 minutes late and then there was some strange outgassing from the 1st stage that started from T+5 minutes or so.”



## Screengrabs from live broadcast

- RLA: “Where normally you seeing the exhaust of the rocket engine there is suddenly a notable plume out of nothing. So far I know there was no MECO at that time so it's something odd, at least.”
- [starting about 300 sec]

# Long March 5 suffers failure with Shijian-18 launch

July 2, 2017 by Rui C. Barbosa

- China launched its second Long March-5 (Chang Zhen-5) rocket on Sunday carrying a super-heavy experimental communications satellite. The launch took place at 11:23 UTC from the Wenchang Space Launch Centre's LC101 dedicated Launch Complex.
- “The correct altitude during stage 2 burning and coasting = GTO perigee = 185~200km”
- <https://www.nasaspaceflight.com/2017/07/long-march-5-lofts-shijian-18/>

# Long March 5 Anomaly / Failure | Payload: Shijian 18 | July 2nd 2017



- <https://www.youtube.com/watch?v=vagl48edwNA>

起飞  
三四助推方向



**BASED ON NOMINAL TIME OF SECOND STAGE  
IGNITION, WHICH APPARENTLY WAS SIGNIFICANTLY  
DELAYED DUE TO FIRST STAGE ENGINE PROBLEM.**





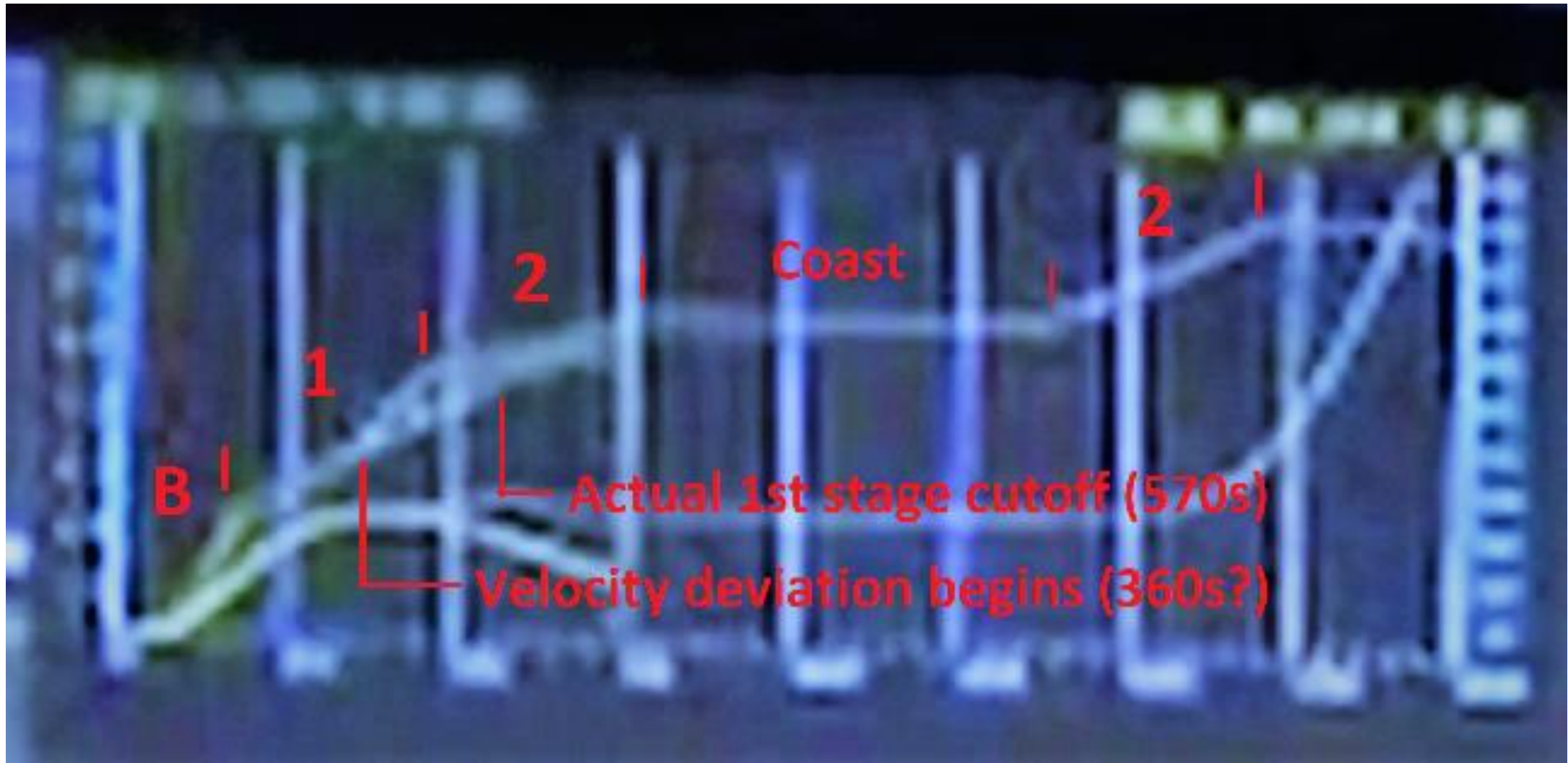
# Discussion [continued]

- [Re: FAILURE: Shijian-18 - CZ-5 \(Y2\) - WSLC, LC101 - July 2, 2017 \(11:23 UTC\)](#)
- « Reply #178 on: 07/02/2017 02:46 PM »
- [Unlike](#)
- I did a little analysis on the velocity curve from the now-infamous graph from that screenshot. Looks like the velocity curve starts to fall short around 360 seconds into flight, about 2 minutes before scheduled stage 1 cutoff and about 3.5 minutes before actual cutoff.

Edit - this seems basically consistent with the rumor SmallKing posted. If 1 of 2 YF77s failed, the remaining fuel should logically take about twice as long to consume, turning ~2 minutes burn remaining into ~4.

-

Yellowstone 10: “The vertical lines on the graph in that screenshot are at 250-second intervals, so it looks like the deviation began somewhere around the 400-second mark. That would put it before staging.”



# “Galactic Penguin” [knowledgeable observer]

- Liftoff at 5:05  
Booster separation at 7:59 (T+2:54) (normal)

Starting from 9:19 (T+4:14) the exhaust plume on the right side suddenly got much brighter  
<speculation>I wonder if its just the sunset exhaust plume light show (liftoff was about 4 minutes after local sunset) or if it indicates a leak on a propellant feed line? </speculation>

Fairing separation is at 9:48 (T+4:43) (normal)

What is sure is that all went wrong at 10:49 (T+5:44) when the left engine plume catastrophically turned into gas venting - that fits in with the rumored time that the 1st stage engine #1's turbopump went down.

# “Ben the Space Brit”

- Further to Phil's point, most expendable LVs run entirely on their on-board logic and have no facility to respond to ground commands. If the IU wasn't programmed to compensate for this contingency, then no mitigating action was possible.

One hardware-based possibility is that the turbopump failure also took out the upstream valves between the prop tanks and the engines so there was no way to stop the vent-to-vacuum of the prop through the remains of the engine. So, the IU was not only trying to compensate for huge cosine losses with the remaining engine but was *also* trying to compensate from off-axis thrust from the venting that also meant propellant was being wasted at quite a high rate. It looks like the combination left the vehicle both low and slow at stage separation.

- “Zhangmdev” =  
The velocity did not deviate the projection much, but the altitude was way off. If that altitude curve was accurate, the 2nd stage was dipping towards 100 km. It could be reentering before the 2nd burn. That was quite unexpected. One of the core engine lost thrust fairly late into the 1st stage burn, and the remaining engine burned additional 100+ seconds to make up the shortfall. The payload mass was about half of the projected GTO capacity, there should be quite a large margin. So why wouldn't the 2nd stage burn for extra longer time and ended up in the LEO at least?

<https://forum.nasaspaceflight.com/index.php?topic=42798.220>

- Also any information about the 2nd burn of the 2nd stage?

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CGTN

LIVE

厦门站

台湾省

东沙群岛

助推器落区

整流罩落区

拉瓦格

吕宋岛

邦 贵

菲

圣卡洛斯

LONG MARCH 5

## CHINA SPACE EXPLORATION

Rocket jettisons the payload fairing



7.3  
6.4  
0.9  
5.5  
100

CGTN

WENCHANG, HAINAN PROVINCE

LIVE



东沙群岛

助推器落区

整流罩

钱岭

南海

拉瓦格

吕宋岛

邦贵

菲

圣费尔南多

圣卡洛斯

律

西沙站

# CHINA SPACE EXPLORATION

LONG MARCH 5

Rocket jettisons the payload fairing



7:29 (approx.) – First  
7:35 (approx.) – Seco

Camiguin Island  
 $19^{\circ} 15', 121^{\circ} 57''$   
1,179 km from  
Wenchang,  
Hainan

Mer des Philippines

19-19.0N 122-37.3E

Mer de Chine méridionale

Philippines

Manille

Taipei  
Taiwan

Hong Kong  
Macao

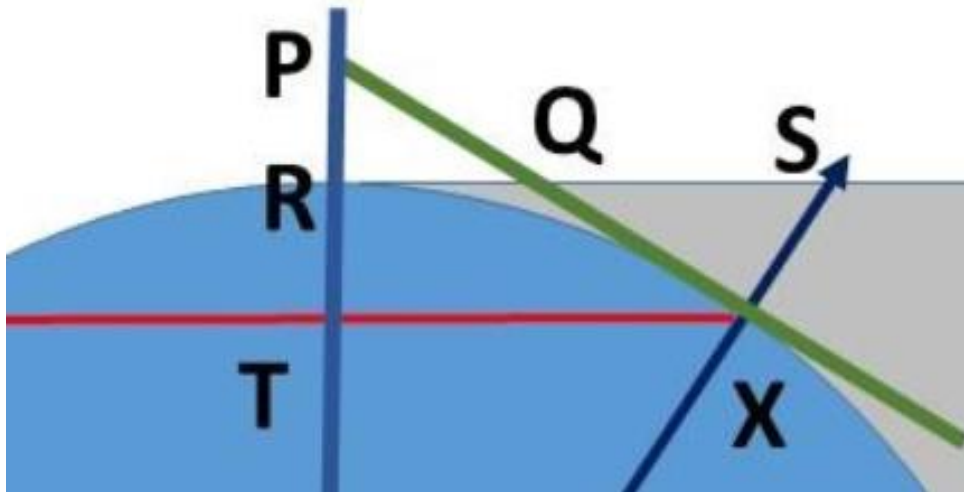
So.... A troubled rocket, headed eastwards in nearly level flight.....

- Completely unawares, a neighboring nation is enjoying a weekday evening, many people outside in mild weather and clear skies.



The ground downrange is already past sunset, the sky is dark, but high overhead, sunlight is still streaming over the western horizon.

**HOW HIGH WOULD AN OBJECT HAVE TO BE TO STILL BE SUNLIT?**



TYPICAL 'SHADOW HEIGHT'	
5.0°	15 km
10.0°	79 km
15.0°	195 km
20.0°	367 km
25.0°	603 km
30.0°	913 km
35.0°	1314 km
40.0°	1827 km

SUN DEPRESSION ANGLE

... AND HERE IS THE RESULT



#KMJS12

GMA

# U.F.O. LIGHT SIGHTING HERE IN THE PHILIPPINES

- **Published on Jul 2, 2017 // 28 sec / amrit nazran**
- Just spotted this unusual light in the sky. It looks like a ufo going by.
- Vinea Antillac = There was a sighting of this last night at Philippines, region 2, isabela, around san mariano. one of the people in our house said it was releasing some kind of steam.
- <https://www.youtube.com/watch?v=tYJN6GplSv0>



U.F.O. LIGHT SIGHTING HERE IN THE PHILIPPINES



0:05 / 0:29

<https://www.youtube.com/watch?v=tYJN6GplSv0>





# OVER-BRIGHT IMAGE CLOSE-UP

<https://www.youtube.com/watch?v=tYJN6GpISv0>

photo credit: Amrit Nazran

# UFO spotted in Cagayan, Philippines

- Art Ruiz / 07 sec
- **Published on Jul 2, 2017**
- Real or not?
- [https://www.youtube.com/watch?v=nK1D6\\_w8GzU](https://www.youtube.com/watch?v=nK1D6_w8GzU)

# UFO spotted in Cagayan, Philippines



0:06 / 0:07



# OVERBRIGHT BLOW-UP



# Third video posted was soon deleted [copy?]

- real life ufo in baler philippines ZJ Cruz  
<https://www.youtube.com/watch?v=LJ7mSFHrlps>
- “This video is unavailable”
- **ZJ Cruz** - jim oberg it headed east
- jim oberg It was last night 7:43 and it just disappeared in the clouds
- <https://www.youtube.com/channel/UC9>



This video has been removed by the user.

Sorry about that.





# UFO IN PHILIPPINES PH. CAUAYAN city

[Singh Guriqbal](#) Published on Jul 3, 2017

15 sec

- <https://www.youtube.com/watch?v=fnZyJYS46Ks>



# repost

- <https://www.youtube.com/watch?v=30RQlXgNgTQ>

# Repost?

- <https://www.youtube.com/watch?v=FnHms12WlzU>

# UFO seen at ILOCOS SUR! JULY 2,2017

[Filipino Faggat](#)

<https://www.facebook.com/filipinofaggat/>

**Published on Jul 2, 2017 15 sec**

Credits to Fb.com/Bernard Adrian Mana

<https://www.facebook.com/bernardadrian.mana>



- **Sunset 6:36 pm; at 7:45 sun az 300, elevation -15, shadow alt 195 km**
- **<https://www.youtube.com/watch?v=GJhXIXb4Tv0>**

UFO seen at ILOCOS SUR!JULY 2,2017



0:04 / 0:15



UFO seen at ILOCOS SUR!JULY 2,2017



0:06 / 0:15





UFO seen at ILOCOS SUR!JULY 2,2017



▶ ⏸ 🔊 0:09 / 0:15



UFO seen at ILOCOS SUR!JULY 2,2017



UFO seen at ILOCOS SUR!JULY 2,2017





10 seconds  
Top left, right  
Bottom left/right  
Credits to  
Fb.com/Bernard  
Adrian Mana

Image  
brightened to 75%

<https://www.youtube.com/watch?v=GJhXIXb4Tv0>

UNKNOWN  
LOCATION &  
DIRECTION

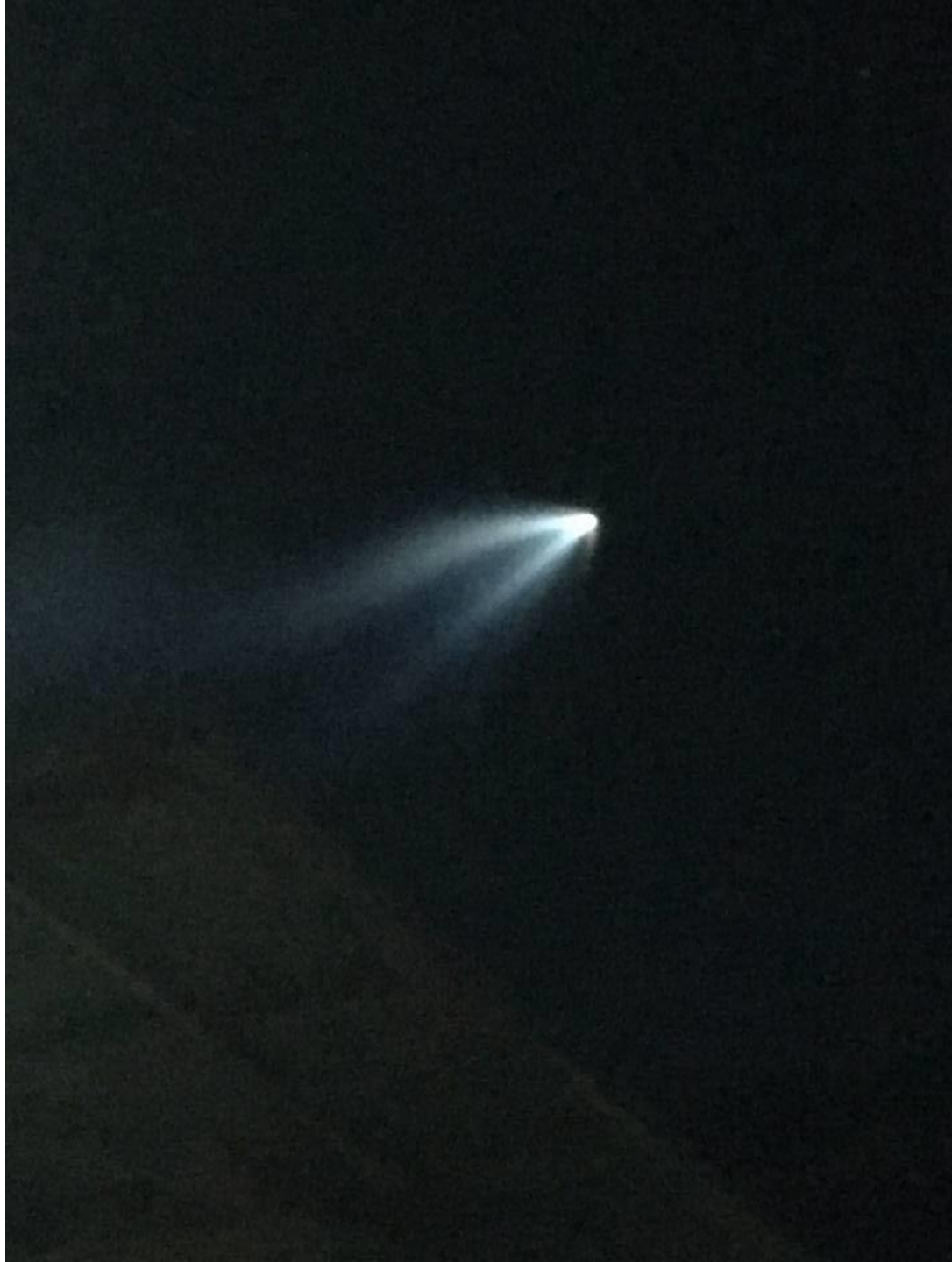
BELOW: PLADO foto



# MORE....

- Karen Nicolas == A friend [Jan Rey Aguly Aqauino] in Eastern Luzon (Isabela Province) posted pictures of the sighting:  
<https://www.facebook.com/janrey.aquino06/posts/1745992502080840?pnref=story>







tbs



tbs





Jan Rey Agulay Aquino in Eastern Luzon (Isabela Province) posted pictures of the sighting by **Rita Cortez Plado** [photo credit]

<https://www.facebook.com/janrey.aquino06/posts/1745992502080840?pnref=story>

## Recent UFO Sighting In Isabela Philippines Baffles Netizens

1 Featured, Mystery, World Events July 02, 2017

PRINT EMAIL A- A+



A Facebook user named Jan Rey Agulay Aquino shared a stunning photo of a UFO seen in the skies of Cauyan, Isabela Philippines. He said in the post that the photos were captured by an Iphone owner named Tine P. Cortez. Other people commented on his post claiming that they have also seen the strange light that illuminated the skies around 7:30pm(GMT+8).

# This is China's failed Rocket Launch from it's southernmost Hainan Province (July 2, 2017)

[Rey T Sibayan](#) Published on Jul 2, 2017 00:55 sec

- Videographer Vhin Cezar captured this bright object. At first it appeared like UFO but news reports confirmed it was China's failed rocket launch.

Spaceflightnow.com reported: China's second Long March 5 rocket fell short of orbit Sunday after lifting off from a spaceport in the southern Chinese province of Hainan, clouding the country's plans to send a robotic sample return mission to the moon later this year.

The Long March 5, China's most powerful launcher, took off at 1123:23 GMT (7:23:23 a.m. EDT; 7:23:23 p.m. Beijing time) Sunday from the Wenchang space center on Hainan Island. Heading to the east just after sunset, the 187-foot-tall (57-meter) rocket climbed into a clear moonlit evening sky on 2.4 million pounds of thrust, releasing four strap-on boosters and its payload fairing on time.

But something went wrong soon after that point, and China's state-run media unexpectedly ended their live video coverage of the launch without explanation.

- <https://youtu.be/30RQlXgNgTQ?t=3>

This is China's failed Rocket Launch from it's southernmost Hainan Province (July 2, 2017)



VIDEO BY: VHIN CEZAR

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UFO OVER MANILA BAY 7/2/2017 



# Recent UFO Sighting In Isabela Philippines Baffles Netizens

1 Featured, Mystery, World Events July 02, 2017

PRINT EMAIL A- A+



TBS

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# Recent UFO Sighting In Isabela Philippines Baffles Netizens

- <http://www.thealternativemind.net/2017/07/recent-ufo-sighting-in-isabela.html?m=0>

# UKG: UFO? Kakaibang liwanag, nakita sa Isabela, Cagayan

UFO? Strange light, seen on Isabela, Cagayan

ABS-CBN News == 60,970 views

- <https://www.youtube.com/watch?v=twmFxKVwBcc>
- Repost <https://www.youtube.com/watch?v=vVvOIXJAC7Q>
- [https://www.youtube.com/channel/UCE2606prvXQc\\_noEqKxVJXA](https://www.youtube.com/channel/UCE2606prvXQc_noEqKxVJXA)
- **Published on Jul 3, 2017**
- Usap-usapan sa social media ang matinding liwanag na nakita ng ilan sa kalangitan ng Isabela at Cagayan.
- Social media talks about the glaring light seen by some in the Isabela and Cagayan sky.

Subscribe to the ABS-CBN News channel! - <http://bit.ly/TheABSCBNNews>

Watch the full episodes of UKG on TFC.TV

<http://bit.ly/UKG-TFCTV>

and on IWANT.TV for Philippine viewers, click:

<http://bit.ly/UKG-IWANTv>

Visit our website at <http://news.abs-cbn.com>

Facebook: <https://www.facebook.com/abscbnNEWS>

Twitter: <https://twitter.com/abscbnnews>

# COMMENTS

- Everyone who saw it -- thank you for sharing, and I envy your experience.

This was the recent disaster of the Chinese satellite rocket, which tumbled out of control as it passed west-to-east, juwhich had recently set]. The observations of the witnesses, and the videos and photos, may be of enormous help st north of Luzon, about 200 kilometers high in space [where its exhaust plumes were still lit by the sun to Chinese engineers who must understand exactly how the rocket failed, so they can fix the problem.

- 517/5000
- Ang bawat taong nakakita nito - salamat sa pagbabahagi, at ako ay dinala sa iyong karanasan.

Ito ang kamakailang kalamidad ng rocket satellite ng Tsina, na bumagsak sa labas ng kontrol sa paglipas nito sa kanluran-sa-silangan, sa hilaga ng Luzon, mga 200 kilometro ang taas sa espasyo [kung saan ang mga tambutso ay pa rin ang naiilawan ng araw na kamakailan lamang itakda].

Ang mga obserbasyon ng mga saksi, at ang mga video at mga larawan, ay maaaring maging napakalaking tulong sa mga inhinyero ng Intsik na dapat na maunawaan nang eksakto kung paano nabigo ang rocket, kaya maayos nila ang problema.

more

- Oberg posting on youtube == “For comparison, these are other reports of sightings of rockets under the same conditions of illumination.”
- Para sa paghahambing, ang mga ito ay iba pang mga ulat ng mga sightings ng mga Rocket sa ilalim ng parehong mga kondisyon ng pag-iilaw.
- [http://satobs.org/seesat\\_ref/misc/misperceiving\\_missiles.pdf](http://satobs.org/seesat_ref/misc/misperceiving_missiles.pdf)  
[http://satobs.org/seesat\\_ref/misc/KYSS-12pdf](http://satobs.org/seesat_ref/misc/KYSS-12pdf)  
[http://satobs.org/seesat\\_ref/misc/tomsk\\_spiral\\_ufo\\_2006.pdf](http://satobs.org/seesat_ref/misc/tomsk_spiral_ufo_2006.pdf)

UKG: UFO? Kakaibang liwanag, nakita sa Isabela, Cagayan



PARENTAL GUIDANCE  
PATNUBAY AT GABAY

7:10 AM

ILANG KALSADA SA METRO MANILA, BINAHA DAHIL



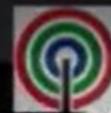
0:13 / 1:53



UKG: UFO? Kakaibang liwanag, nakita sa Isabela, Cagayan



KUHA NI BAYAN PATROLLER:  
JANE TAGACAY



**LIWANAG NA NAKITA SA LANGIT,  
USAP-USAPAN SA SOCIAL MEDIA**

**PG**

PARENTAL GUIDANCE  
SUGGESTED  
ALTHOUGH SOME MATERIALS  
MAY BE INAPPROPRIATE FOR CHILDREN  
UNDER 16 YEARS OF AGE

**7:10 AM**

LSADA SA METRO MANILA, BINAHA DAHIL SA MALAKAS N



0:14 / 1:53





# LOCAL TV INTERVIEWER JUMPS ON THE STORY



**Jessica Soho** (born March 27, 1964) is a Filipina broadcast journalist known as the host of the news magazine program *Kapuso Mo, Jessica Soho* on GMA Network and the newscast *State of the Nation with Jessica Soho* on GMA News TV.

Soho is a multi-awarded journalist.<sup>[1]</sup> On 1998, Soho became the first Filipino to win the British Fleet Journalism Award.<sup>[2]</sup> On 1998, Soho and the *I-Witness* team received a George Foster Peabody Award for the "Kidneys for Sale" and "Kamao".<sup>[3]</sup> Soho's story of a hostage crisis in Cagayan Valley made her the first Filipino to win in the New York Film Festival for Coverage of a Breaking Story.<sup>[4]</sup>

[https://en.wikipedia.org/wiki/Jessica\\_Soho](https://en.wikipedia.org/wiki/Jessica_Soho)

UKG: UFO? Kakaibang liwanag, nakita sa Isabela, Cagayan



**LIWANAG NA NAKITA SA LANGIT,  
USAP-USAPAN SA SOCIAL MEDIA**



**7:10 AM**

**PACMAN BAGO PAG-USAPAN ANG POSIBLENG REMATCH**



0:24 / 1:53





UKG: UFO? Kakaibang liwanag, nakita sa Isabela, Cagayan



**ALMEDA VISAYA**  
NAKAKITA



PARENTAL GUIDANCE  
SUGGESTED  
BUT NOT NECESSARY

7:10 AM

HIGIT P2-B SUBSIDIYA PARA SA JEEPNEY MODERNIZ





UKG: UFO? Kakaibang liwanag, nakita sa Isabela, Cagayan

ISABELA







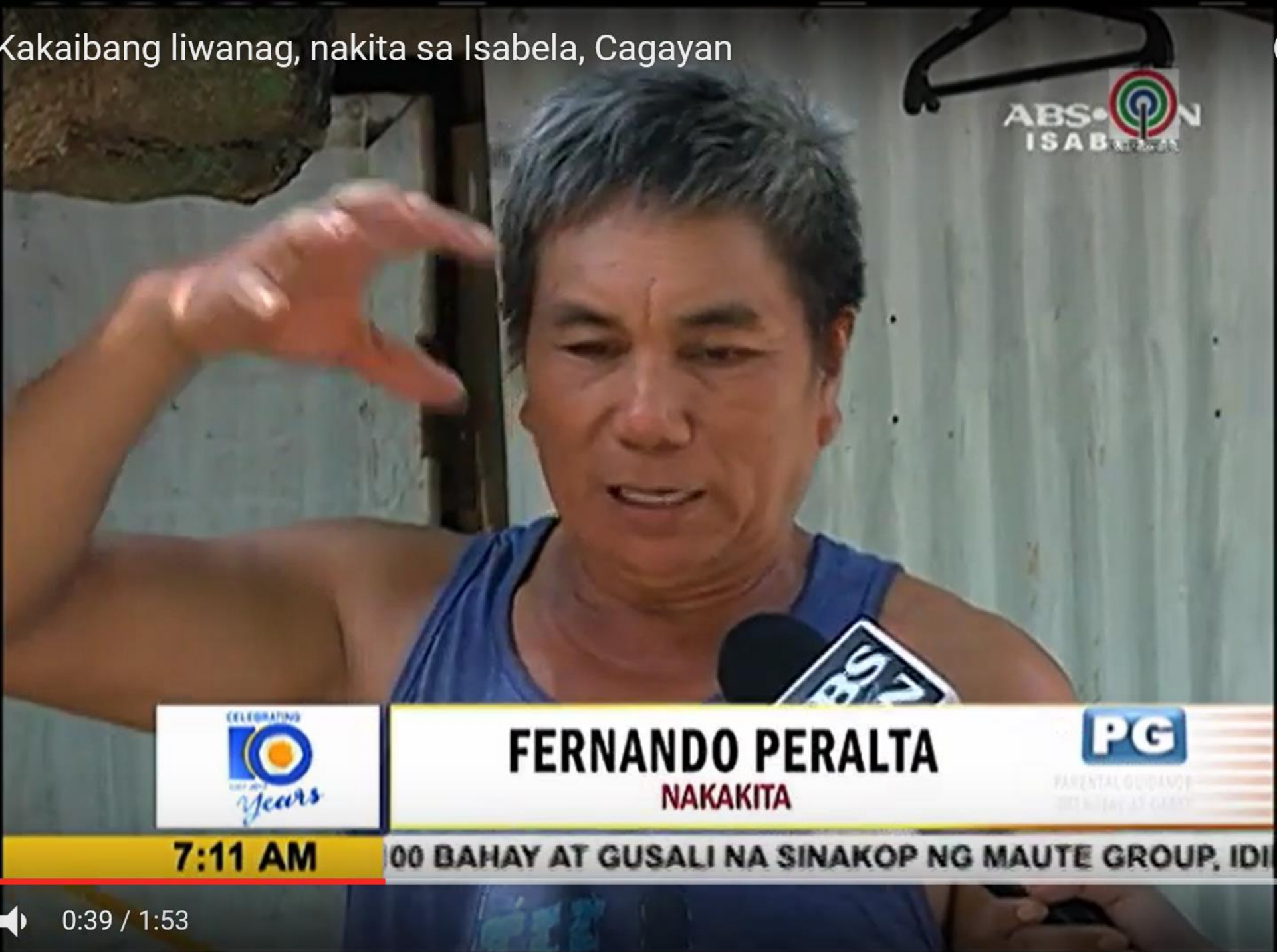
**LIWANAG NA NAKITA SA LANGIT,  
USAP-USAPAN SA SOCIAL MEDIA**

PG

**7:10 AM**    **YA PARA SA JEEPNEY MODERNIZATION, APRUBADO NA**



UKG: UFO? Kakaibang liwanag, nakita sa Isabela, Cagayan



**FERNANDO PERALTA**  
NAKAKITA




PARENTAL GUIDANCE  
SUGGESTED  
BUT NOT NECESSARY AT ALL TIMES

7:11 AM


100 BAHAY AT GUSALI NA SINAKOP NG MAUTE GROUP, IDI

UKG: UFO? Kakaibang liwanag, nakita sa Isabela, Cagayan





**LIWANAG NA NAKITA SA LANGIT,  
USAP-USAPAN SA SOCIAL MEDIA**



**7:11 AM**

IRANG 'CLEARED' NG MILITAR

BINIBINING PILIPIN



UKG: UFO? Kakaibang liwanag, nakita sa Isabela, Cagayan



**LIWANAG NA NAKITA SA LANGIT,  
USAP-USAPAN SA SOCIAL MEDIA**



**7:11 AM**

**FAN NI ERICH GONZALES, NAGPAGAWA NG BILLBOARD**



0:57 / 1:53



UKG: UFO? Kakaibang liwanag, nakita sa Isabela, Cagayan



## LIWANAG NA NAKITA SA LANGIT, USAP-USAPAN SA SOCIAL MEDIA



7:11 AM

NI ARCI MUNOZ, NAKITA SA KANYANG INSTAGRAM STORY



1:08 / 1:53





UKG: UFO? Kakaibang liwanag, nakita sa Isabela, Cagayan

"Hindi ganyan ang distress signal sa merchant vessel. If distress vessel yan dapat may color yung signal niya. If distress vessel yan sa normal, color white dapat continuous flashing siya may meaning yun para sa mga marino and for emergency purpose... "

**Lt. JEFFREY COLLADO**  
PHILIPPINE COAST GUARD



**LIWANAG NA NAKITA SA LANGIT,  
USAP-USAPAN SA SOCIAL MEDIA**

**PG**

7:11 AM

[www.abc-cbnnews.com/umagangkayganda](http://www.abc-cbnnews.com/umagangkayganda)

FAC



1:16 / 1:53





UKG: UFO? Kakaibang liwanag, nakita sa Isabela, Cagayan



**"Hand flare yung distress  
signal na ginamit ng mga  
marino in time of  
emergency..."**

**Lt. JEFFREY COLLADO**  
PHILIPPINE COAST GUARD



**LIWANAG NA NAKITA SA LANGIT,  
USAP-USAPAN SA SOCIAL MEDIA**



**7:11 AM**

**FACEBOOK: UMAANG KAYGANDA (OFFICIAL PAGE)**



1:21 / 1:53





**HEADLINES** [Young Mother Gave Up Her Life to](#)

**Published:** Wednesday 05 July, 2017

[Banner](#) / [Philippines](#) / [Sci-Tech News](#)

## LOOK: UFO Spotted in Isabela & Cagayan Night Sky Sparks Fear and Awe

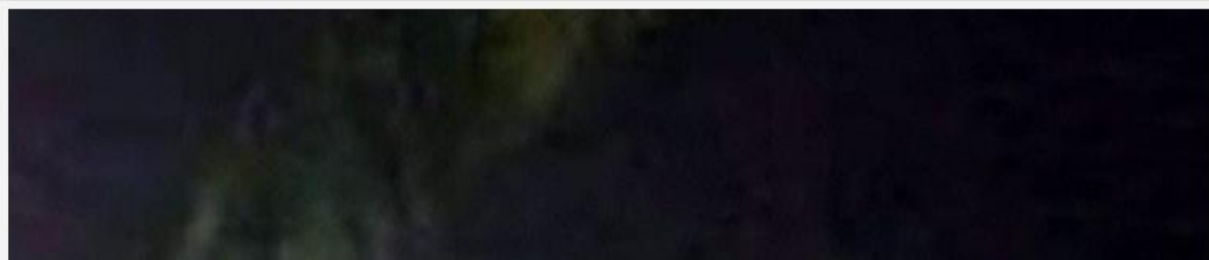
**118**  
SHARES

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An unidentified flying object (UFO) appeared in the skies of Cagayan and Isabela Sunday night. The bright light started local residents as it soared in the night sky. The UFO sighting sparked a number of speculations on what it could be.



<http://adobotoday.com/look-ufo-spotted-in-isabela-cagayan-night-sky-sparks-fear-and-awe/>

# Follow-up news

- **An unidentified flying object (UFO) appeared in the skies of Cagayan and Isabela Sunday night. The bright light started local residents as it soared in the night sky. The UFO sighting sparked a number of speculations on what it could be.**
- **A comet or a drone? Maybe a distress signal, or even a rocket. What could that UFO be? According media reports, the bright white light appeared in the sky at around 7:00 PM on Sunday and stayed only for a few seconds.**
- **ABS CBN News asked for experts' opinions on the sighting but it still proved inconclusive. PAGASA said they monitored no comet or meteor in the area on Sunday night. The Coast Guard, meanwhile, said the UFO was definitely not a distress signal because these float in the sky for a longer time. Besides, distress signals are colored and not white.**
- **From the shape of the bright light, it looks like the contrails of a rocket. As Isabela and Cagayan are near the Philippine Rise (Benham Rise), could someone have fired a rocket from the area?**

# Attempted contacts

- *Tel/Fax: (632) 434-2715 / 434-2675*
- *E-mail: cynthia\_celebre@yahoo.com / cynthia\_celebre@hotmail.com*
- Written requests for the use of PAGASA Astronomical facilities [Planetarium (fixed and mobile) and Astronomical Observatory] shall be filed at the earliest possible time, at the Office of the Chief, Space Science and Astronomy Section (SSAS) with Tel. No. 434-2715.
- The request shall be addressed to:
  - ***Dr. Vicente B. Malano*** *Acting Administrator,*  
*PAGASA Science Garden, Agham Road, Diliman Quezon City*  
*1100*  
*Attn: Engr. Dario L. dela Cruz Chief, SSAS*



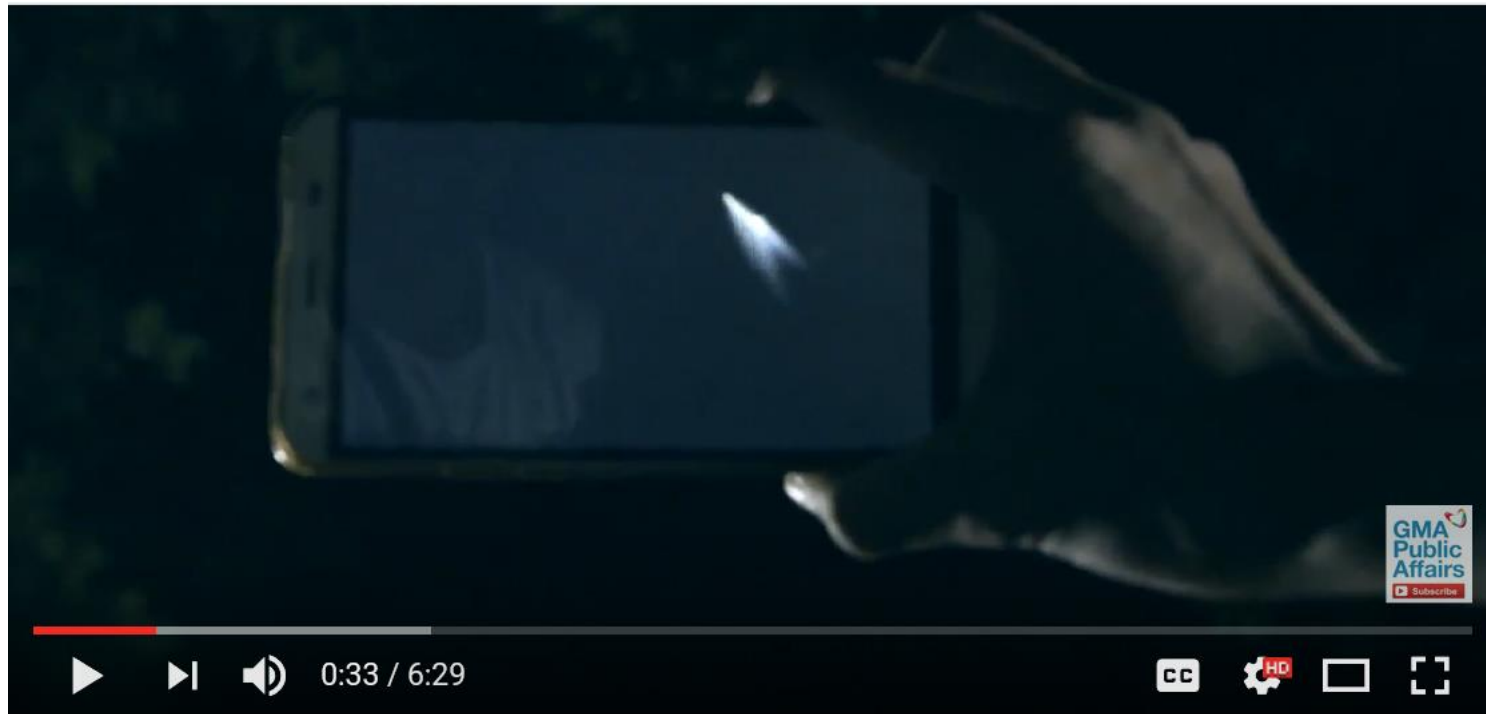
FAILURE: Shijian-18 - CZ-5 (Y2) - WSLC, LC101 - July 2, 2017 (11:23 UTC)

Jim Oberg // July 6, 2017 19:32 gmt

<https://forum.nasaspaceflight.com/index.php?topic=42798.240>

- I think the curve in the plumes from Luzon is QUITE abnormal. It suggests to me that the rocket is slowly tumbling. Don't forget that the plume ejection speed [about 3 km/sec] may be less than the ground speed of the rocket so the plume could normally 'follow' the rocket with whatever delta-V each particle was given, depending on the changing orientation of the rocket. If the plume is seen expanding backwards it is another clue that the rocket ground speed is much less than planned. It's also possible that the curve is a sign of atmospheric resistance if the rocket is dropping towards the 100-km 'Karman Line'. Over Luzon at the moment the images were taken, Earth's shadow was about 200 km high.

# Kapuso Mo, Jessica Soho: UFO sighting in Isabela, is it true?



Kapuso Mo, Jessica Soho: Pinaniniwalaang UFO sighting sa Isabela, totoo nga ba?



GMA Public Affairs ✓

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Published on Jul 10, 2017

221,373 views

[https://www.googleadservices.com/pagead/aclk?sa=L&ai=C\\_4col95nWfVJxtn8AcmpsLAC6-WamUqJmryAvQW2kB8QASAAyMmmj](https://www.googleadservices.com/pagead/aclk?sa=L&ai=C_4col95nWfVJxtn8AcmpsLAC6-WamUqJmryAvQW2kB8QASAAyMmmj)

- <https://www.youtube.com/watch?v=kRsoMSj8fUw>

# Spreading story

- Gumawa ng ingay sa social media ang pinaniniwalaang UFO sighting ng mga residente ng Isabela, na kung saan ay mayroong misteryosong ilaw na makikita sa himpapawid ayon sa aktwal na video. Mayroon nga bang katotohanan ang naganap na insidenteng ito?
- GOOGLE TRANSLATE = “Make a social media noise on the alleged UFO sighting of Isabela residents, where there is a mysterious light visible on the air according to the actual video. Is this incident happen right?”

Aired: July 9, 2017

Subscribe to us!

- [http://www.youtube.com/user/GMAPublicAffairs?sub\\_confirmation=1](http://www.youtube.com/user/GMAPublicAffairs?sub_confirmation=1)  
<http://www.youtube.com/user/GMAPublic...>

#KMJS12

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Kapuso Mo, Jessica Soho: Pinaniniwalaang UFO sighting sa Isabela, totoo nga...



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▶ **COURTESY: MICHAEL ANGELO BUENO**  
ACTUAL FOOTAGE



0:34 / 6:29



Kapuso Mo, Jessica Soho: Pinaniniwalaang UFO sighting sa Isabela, totoo nga...



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0:53 / 6:29



HD





Kapuso Mo, Jessica Soho: Pinaniniwalaang UFO sighting sa Isabela, totoo nga...



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**JAN REY AQUINO**

▶ NAKAKITA RAW NG UFO



2:47 / 6:29



HD







Kapuso Mo, Jessica Soho: Pinaniniwalaang UFO sighting sa Isabela, totoo nga...



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2:36 / 6:29



HD





Kapuso Mo, Jessica Soho: Pinaniniwalaang UFO sighting sa Isabela, totoo nga...

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2:34 / 6:29





Kapuso Mo, Jessica Soho: Pinaniniwalaang UFO sighting sa Isabela, totoo nga...



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**SALVADOR VILCHES**

▶ EXTERNAL VP, UFO SOCIETY OF THE PHILIPPINES



4:33 / 6:29

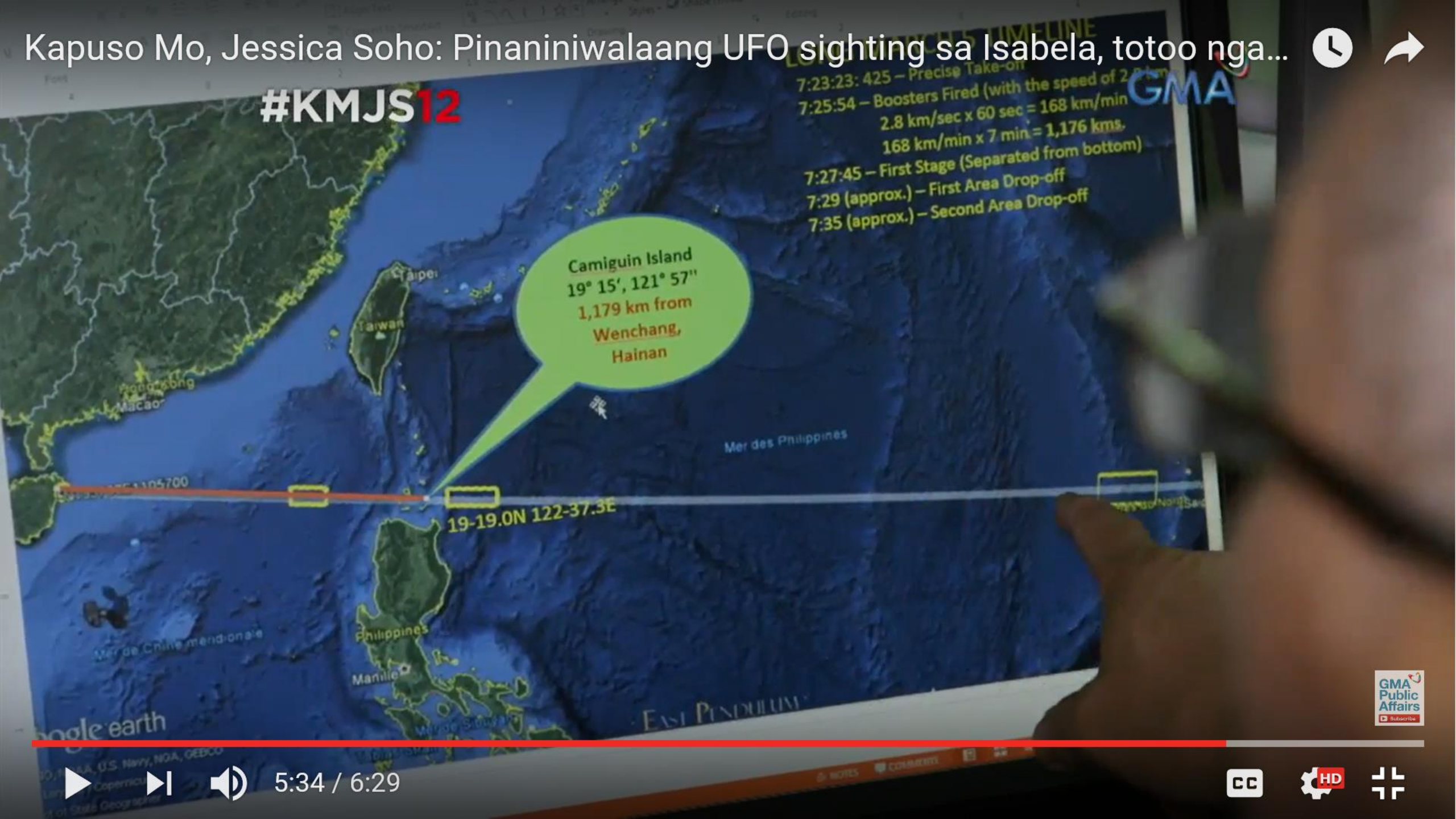




Kapuso Mo, Jessica Soho: Pinaniniwalaang UFO sighting sa Isabela, totoo nga...



#KMJS12



5:34 / 6:29



# Social media comment

Kenneth L = [???] are going to be the shooting stars. I told him I saw that with four of my peers coming home from cauayan city around 7 or 8 PM we saw that. As well as my classmates who lived in the countryside, GC in our messenger and newsfeed from Isabela filled with #UFO pictures and videos were also scattered. Has a shooting star jumping down the shooting star. And then the mule jumped up the shooting star quickly fell. How much is the shooting star high, which we find low. UFO, but im not telling that alien is a UFO unidentified flying object. But as I searched online I think that's the rocket of china being flown, but I was wondering why in the Philippines I just saw it and not elsewhere, for example Ilocos people would have also seen that rocket really is china. So what about UFOs?



#KMJS12

Camiguin Island  
19° 15', 121° 57"  
1,179 km from  
Wenchang,  
Hainan

7:23:23: 425 – Precise Take-off

7:25:54 – Boosters Fired (with the speed of 2.8 km/sec)

$2.8 \text{ km/sec} \times 60 \text{ sec} = 168 \text{ km/min}$

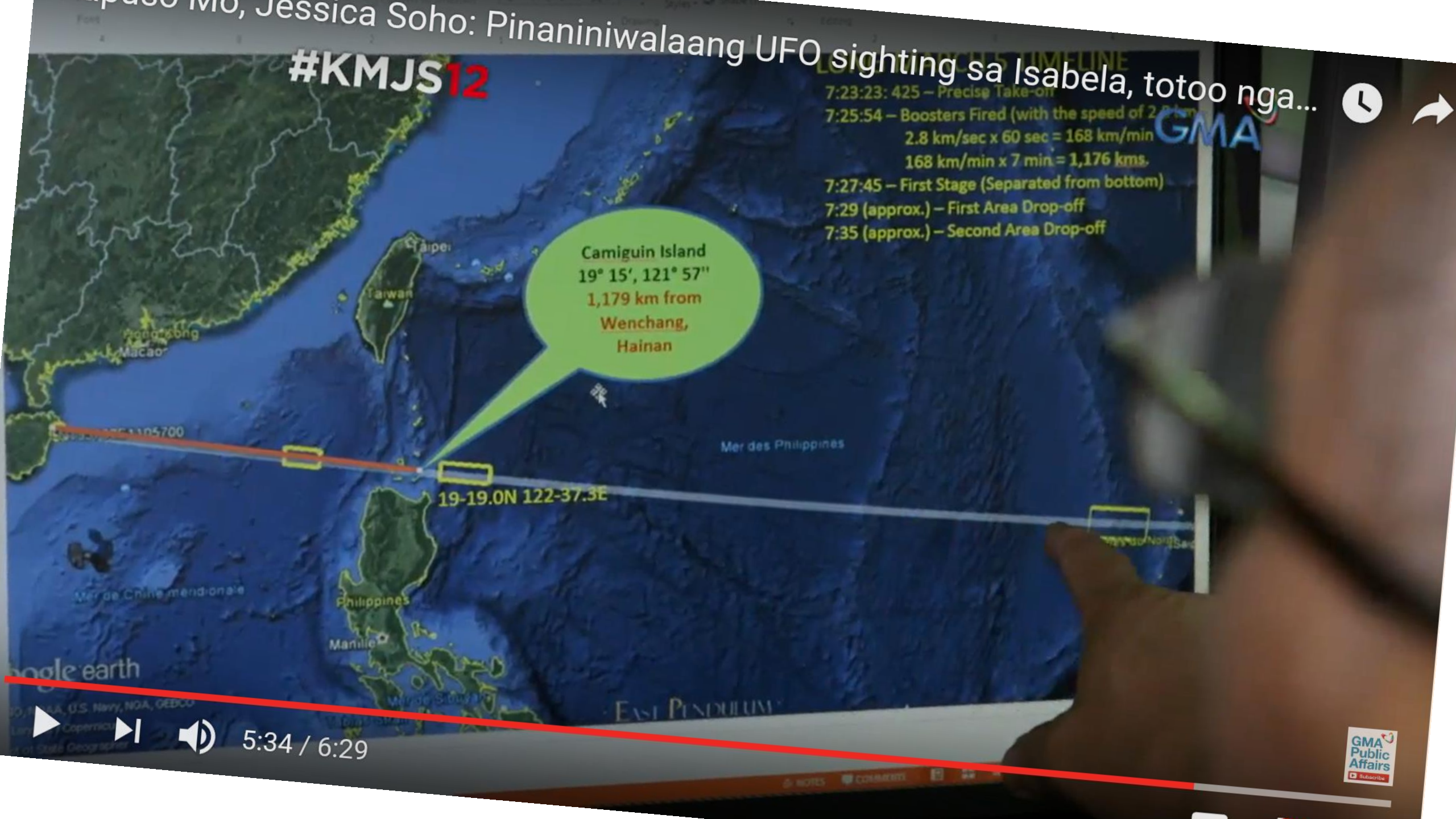
$168 \text{ km/min} \times 7 \text{ min} = 1,176 \text{ kms.}$

7:27:45 – First Stage (Separated from bottom)

7:29 (approx.) – First Area Drop-off

7:35 (approx.) – Second Area Drop-off

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5:34 / 6:29

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Kapuso Mo, Jessica Soho: Pinaniniwalaang UFO sighting sa Isabela, totoo nga...



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**JOSE MENDOZA, IV**

▶ CHIEF ASTRONOMICAL PUBLICATION UNIT, PAGASA



5:36 / 6:29



# Another video

- Feb 14, 2017 apparent rocket plume, Philippines
- A light with no description as a helicopter or airplane appear on February 14th 2017 at 6:20 in the morning coming out right off my apartment I saw it what do you think it is..
- <https://www.youtube.com/watch?v=0xFuuBa5nNQ>
- Baler, Philippines
- It was last night 7:43 and it just disappeared in the clouds

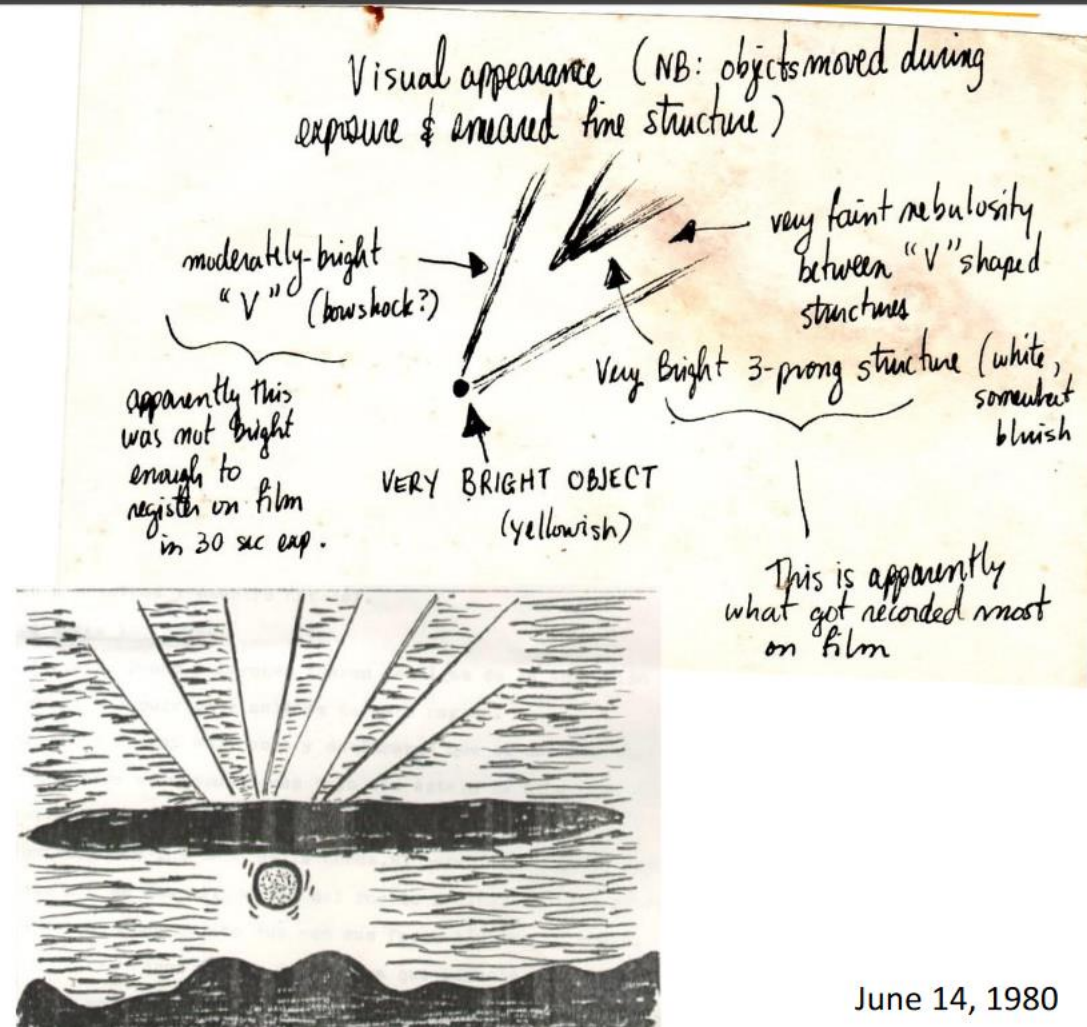
# Similar flight failure events in the past

- [http://satobs.org/seesat\\_ref/misc/molniya\\_clouds\\_over\\_south\\_america.pdf](http://satobs.org/seesat_ref/misc/molniya_clouds_over_south_america.pdf)
- [http://satobs.org/seesat\\_ref/misc/Space clouds-Strange Spinoff of the Space Age.pdf](http://satobs.org/seesat_ref/misc/Space_clouds-Strange_Spinoff_of_the_Space_Age.pdf)
- 
- [http://satobs.org/seesat\\_ref/misc/Norway Spiral -- 15 FAQs final.pdf](http://satobs.org/seesat_ref/misc/Norway_Spiral_--_15_FAQS_final.pdf)
-

# Feb 11, 1980 -- Chile

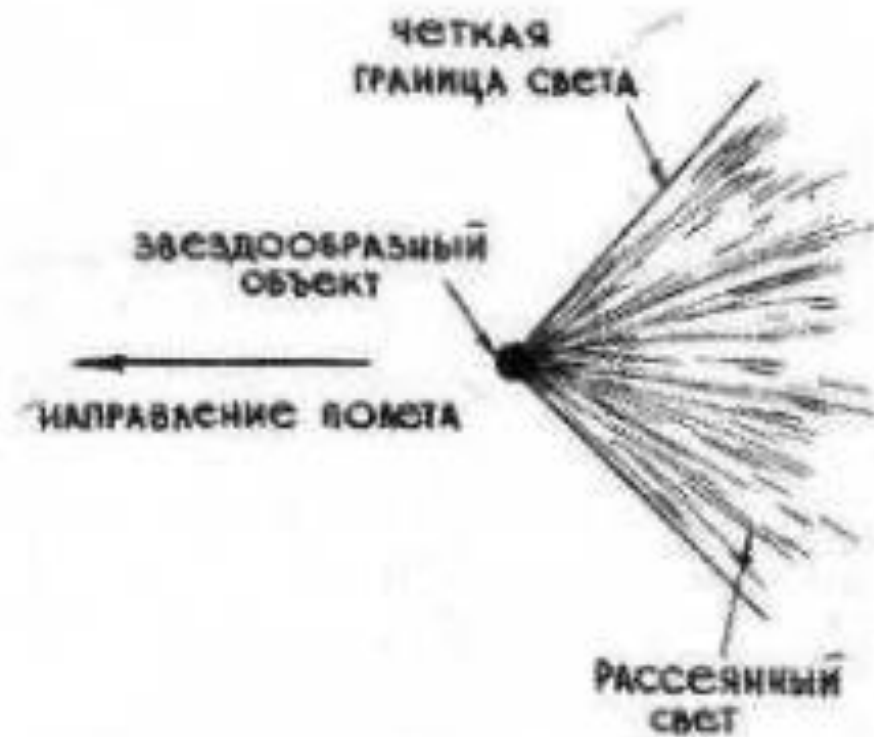
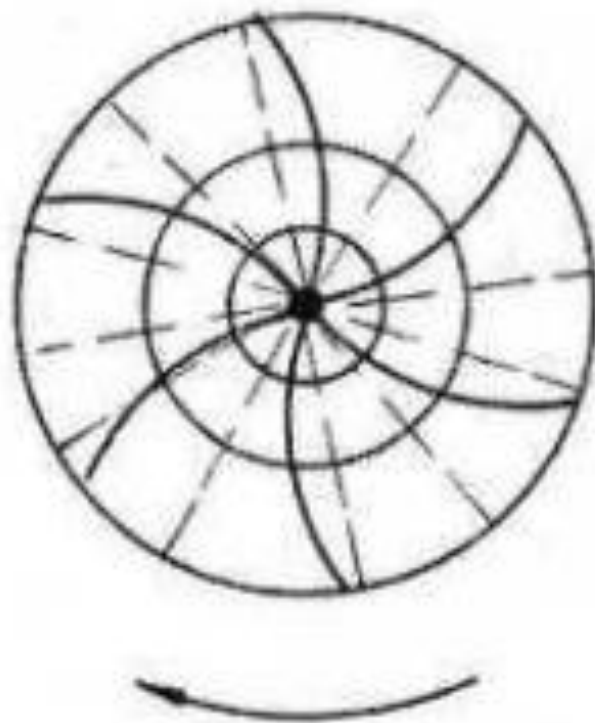


Booster's fourth stage was restarting to carry payload higher, then dumping fuel



June 14, 1980

October 2, 1991, Russia





December 9, 2009, Norway



# summary

- EXTRAORDINARY DEGREE OF DOWNRANGE OBSERVATIONS
- LACK OF COORDINATION WITH PHILIPPINES GROUPS PREVENTED ADEQUATE ASSESSMENTS OF EYEWITNESS REPORTS.
- .VAST MAJORITY OF REPORTS FAILED TO PROVIDE BASIC CONTEXTUAL INFORMATION SUCH AS LOCATION, TIME, VIEWING ANGLES, MOTION
- .UTILITY OF REPORTS FOR POST-FLIGHT ACCIDENT ANALYSIS VERY LOW
- .SINCE NEW SIGHTINGS OF FUTURE LAUNCHINGS [AT PROPER ILLUMINATION] ARE LIKELY, BETTER PUBLIC AWARENESS NEEDED
- .CLOSER CONTACTS WITH APPROPRIATE IN-COUNTRY GROUPS NEEDED
- .POTENTIAL FOR VALUABLE CONTRIBUTIONS TO FUTURE ANOMALY INVESTIGATIONS NEEDS TO BE IMPROVED