

KYSST-11

[Kapustin Yar to Sary Shagan Topol]

Aug 22, 2015

18:54 local – INTERFAX news agency, Moscow

**INTERCONTINENTAL BALLISTIC MISSILE TEST-FIRED FROM KAPUSTIN
YAR RANGE AT 6:13 P.M. MOSCOW TIME, MISSILE HIT SIMULATED
TARGET AT RANGE IN KAZAKHSTAN - RUSSIAN DEFENSE MINISTRY**

PREVIOUS OBERG REPORTS

http://www.jamesoberg.com/Topol_Test_with_images.pdf

<http://www.jamesoberg.com/140520-topol-ky.pdf>

JAMES OBERG
August 27 2015
DRAFT-2

Interfax: .Russia: ICBM, new 'combat payload' test-fired from Kapustin Yar to Kazakh site [1600 GMT 22 Aug 15 Moscow]

- "On 22 August 2015, at 1813 Moscow time [1513 gmt], a Strategic Missile Troops [RVSN] combat crew test-fired an RS-12M Topol intercontinental ballistic missile (ICBM) from the State Central Interservice Firing Range of Kapustin Yar in Astrakhan Region," Col Igor Yegorov, RVSN spokesman in the Press Service and Information Directorate of the Russian Federation Ministry of Defense, said.
- "The purpose of the launch was to test new combat payload ["perspektivnoye boyevoye osnashcheniye"] for intercontinental ballistic missiles," he explained. "The missile's dummy warhead hit a simulated target at the Sary-Shagan range (Republic of Kazakhstan) with the accuracy required," Yegorov said.
- The Kapustin Yar range is uniquely suited to the testing of combat payload elements for ballistic missiles, Yegorov also underlined.
- "It is the only one that has the test routes and the test range instrumentation complex to allow the testing of advanced combat payload which can defeat the missile defense system, including in a future configuration, across the spectrum of possible conditions for its delivery to targets by the Strategic Missile Troops and the Navy," he said.

Launch news and views

- First launch in more than a year of a fascinating, controversial, and often visually spectacular series of missile defense penetration tests
- RT launch video [appears to be post-sunset so is probably file footage]
- <https://www.youtube.com/watch?v=m6OZMjVdzvk>
- Western press reaction minimal. Pavel Podvig has a short report about this latest launch. He says it was a Topol-E modification of the missile.
- http://russianforces.org/blog/2015/08/another_topol_launch_from_kapu_1.shtml
- No further Moscow discussion
- NOTAMS – [unavailable]
- Short-range testing of ICBMs forbidden by strategic treaties
- Launch is of high cultural interest because past events had OFTEN resulted in mass sightings and video recordings which characterized flight profile

Launch from the lower Volga steppes



<https://www.youtube.com/watch?v=QHUKyrEU7vc>

Short range test with high apogee



<https://www.youtube.com/watch?v=QHUKyrEU7vc>

KY-SS family of Topol launches

1. 2005 Nov 01 1710 gmt [sunset + 4h33m]
2. 2007 Dec 08 14:43 gmt [sunset + 1h41m] ???
3. 2009 Dec 10 1235 gmt [sunset + 34m] SEEN
4. 2010 Dec 05 1911 gmt [sunset + 7h09m]
5. 2012 Jun 07 1739 gmt [sunset + 43m] SEEN
6. 2013 Oct 10 1339 gmt [sunset - 39m] SEEN +ISS
7. 2013 Dec 27 1730 gmt [sunset + 4h33m]
8. 2014 Mar 04 1810 gmt [sunset + 3h25m]
9. 2014 May 20 1708 gmt [sunset + 31m] SEEN
10. 2014 Nov 11 ????? [rumored failure]
11. 2015 Aug 22 1513 gmt [sunset - 45m] SEEN

MISSILE GROUND TRACK

Kapustin Yar to Sary Shagan

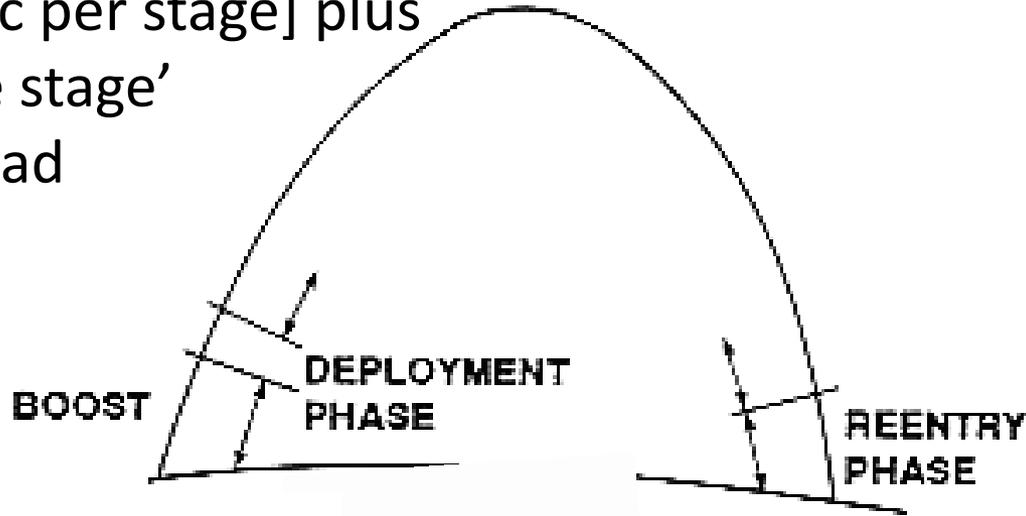
Explicit comments from Moscow that tests were flown in Russia's deep interior to evade prying eyes of enemies

Kapustin Yar,
lower Volga

Sary Shagan,
Kazakhstan

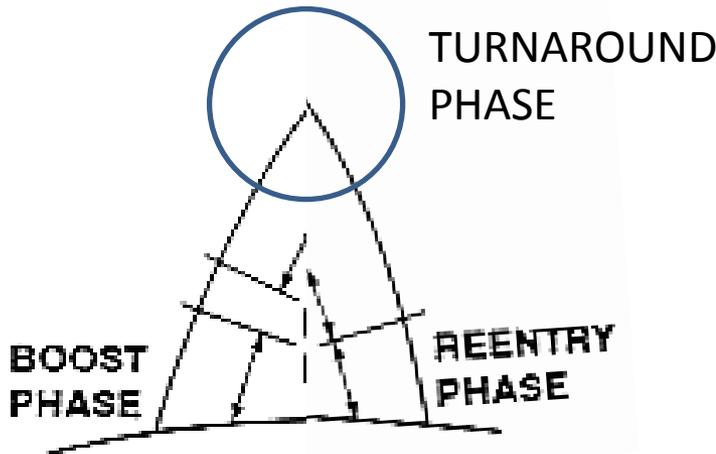


Standard solid-fuel ICBM ascent involves rapid sequence high-G burns [60-sec per stage] plus 'battle stage' warhead bus.



FULL RANGE [above]

SHORT RANGE [below]



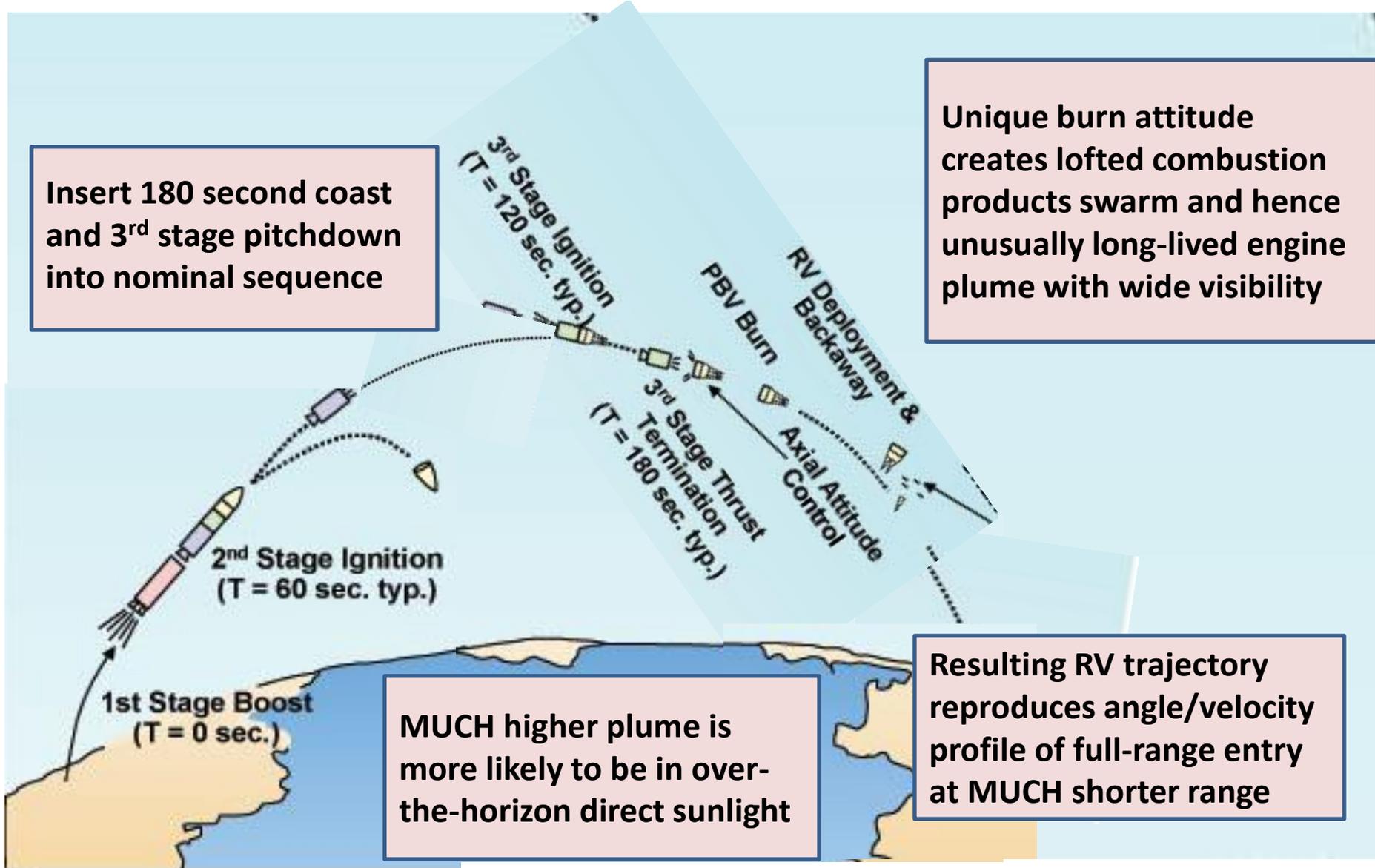
How the shorter range is performed

Normal high-G ascent for first two stages, then insert 180-second delay as stack coasts higher, conduct 3rd stage burn angled downwards to get onto nominal end-of-mission profile.

Why the KY-SS missions are so visible

Insert 180 second coast and 3rd stage pitchdown into nominal sequence

Unique burn attitude creates lofted combustion products swarm and hence unusually long-lived engine plume with wide visibility



MUCH higher plume is more likely to be in over-the-horizon direct sunlight

Resulting RV trajectory reproduces angle/velocity profile of full-range entry at MUCH shorter range

KYSS Flight Profile Peculiarities

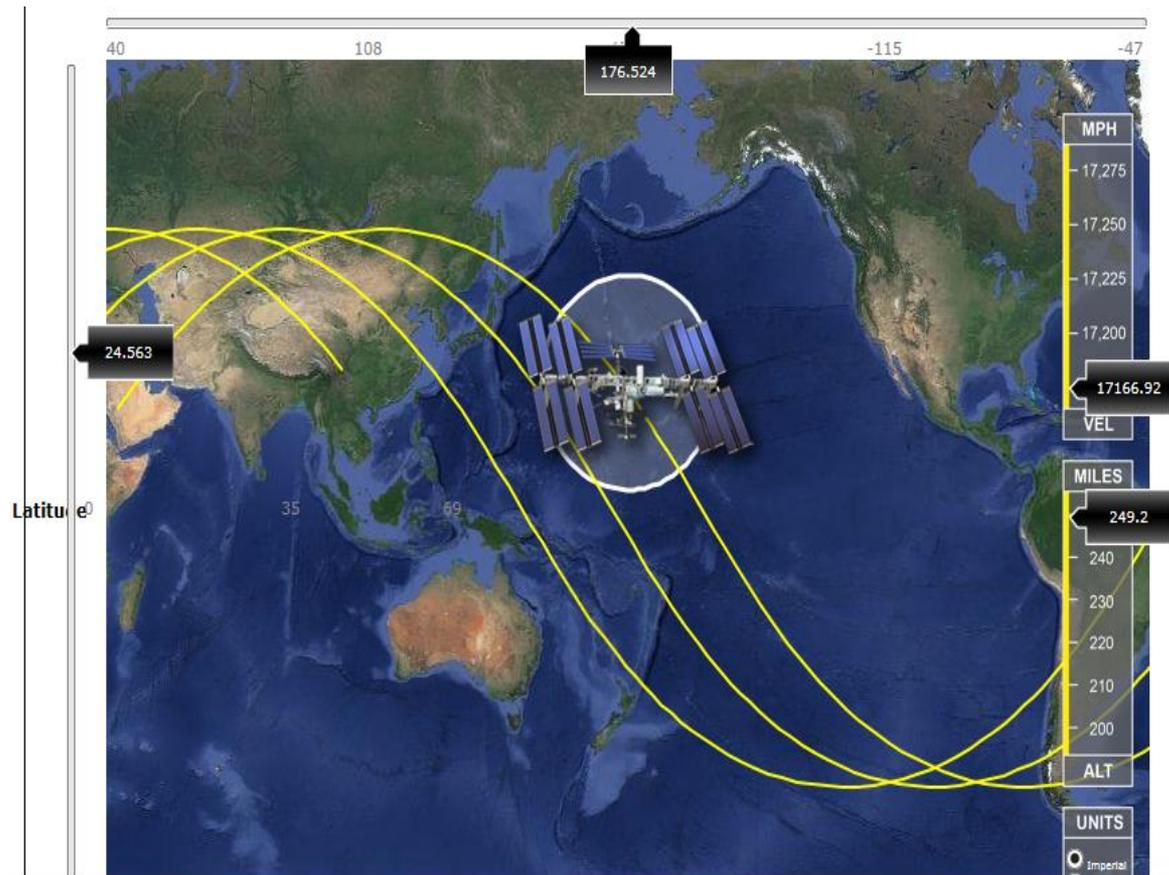
- This burn scenario has not been described in any Russian press reports, but is derived from my study of hundreds of videotapes posted as 'UFOs' on youtube.com and rutube.ru
- Stage-3 burn with plume ejected aft with upward tilt creates a long-lived effluent particle cloud of enormous length [200 km]
- High apogee [> 900 km] and apparently orchestrated illumination conditions create visibility over vast distances
- Probably most spectacular space/missile-related OSINT opportunities into sensitive Moscow military activities since Soviet "crescent UFO flap" of 1967-8 revealed operational features of top secret treaty-breaking 'Fractional Orbital Bombardment System' [FOBS] space nuclear weapon

Ground Visibility

- **Launch 15:13 gmt, plume max 15:19**
- **15:58 Kapustin Yar sunset**

- **Sighting time 15:30 [9:30 pm local]**
- **Omsk sunset 14:23**
- **Saratov sunset 16:05**
- NOT in line of sight with Space Station
- NO reports this time of post-burn spiral

No opportunity for ISS observation [as there was for October 2013 launch]



Space Station was over mid-Pacific headed southeast

Significantly fewer videos, reports

- Tashkent and Saratov – only photos, no video
- Astrakhan reports
- Omsk reports, but no imagery at all [used images from Tashkent websites]
- Omsk weather was partly cloudy
- Astana, Tashkent was clear

- Absence a result of growing public boredom with such flights, or active government suppression due to belatedly-realized military significance?

Russia media: НЛО [UFO!]

Город55®

Новости в Омске

23 августа, 23:44

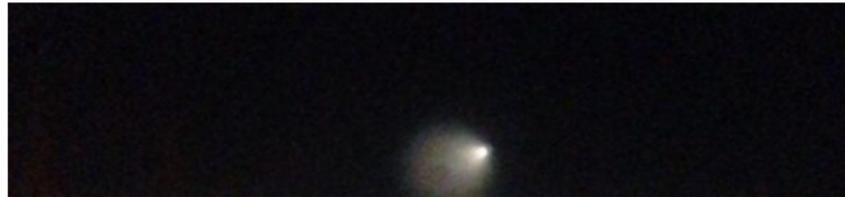
Омск Политика Видео Происшествия Купоны Заотдых Омск

ел:29-42-42 (ООО "Содействие Финанс Групп")



Снова НЛО над Омском: объект пролетел со стороны Казахстана

Секретные материалы вчера, 10:15 6554 6



В небе над Омском местные жители заметили очередное НЛО

Над Омском снова наблюдали НЛО

Объект был похож на летящую комету. В небе над Саратовом и Энгельсом видели неопознанный летающий объект (ФОТО)

Саратовцы приняли баллистическую ракету за НЛО

Общество

Очередной НЛО над Омском

22 августа 2015 — 22:17



Около 21.30 очевидцы стали свидетелями пролета над Омском очередного НЛО. Судя по внешнему виду и направлению полета, омичи оказались свидетелями запуска ракеты с космодром Плесецк, однако подтверждения этому пока нет.

Около 21.30 в небе над Омском в разрывах между облаков появился

Omsk media used only stock images [above] or [left] Tashkent views

Scattered media coverage

Omsk cloud cover [via 'intellicast']

7:29 AM aug 23 -- "Unfortunately I didn't watch the latest events because worked. And we have lately a cloudy sky and there is nothing it isn't visible"

10:00 PM, Sat 22 August 2015	48°	43°	82%	29.77in	6mi	Unl	W 4mph	NA	Scattered Clouds
9:30 PM, Sat 22 August 2015	50°	43°	76%	29.77in	6mi	Unl	W 7mph	NA	Scattered Clouds
9:00 PM, Sat 22 August 2015	52°	43°	71%	29.77in	6mi	3200ft	W 9mph	NA	Broken Clouds
8:30 PM, Sat 22 August 2015	54°	43°	67%	29.77in	6mi	3300ft	W 13mph	NA	Broken Clouds

<http://96.8.93.198/Local/Observation.aspx?location=RSXX0080>

YOUTUBE posting



Капустин Яр



Россиядан учирилган РС-12М “Тополь” баллистик ракетаси ёхуд Тошкентда кўринган номаълум учар жисм

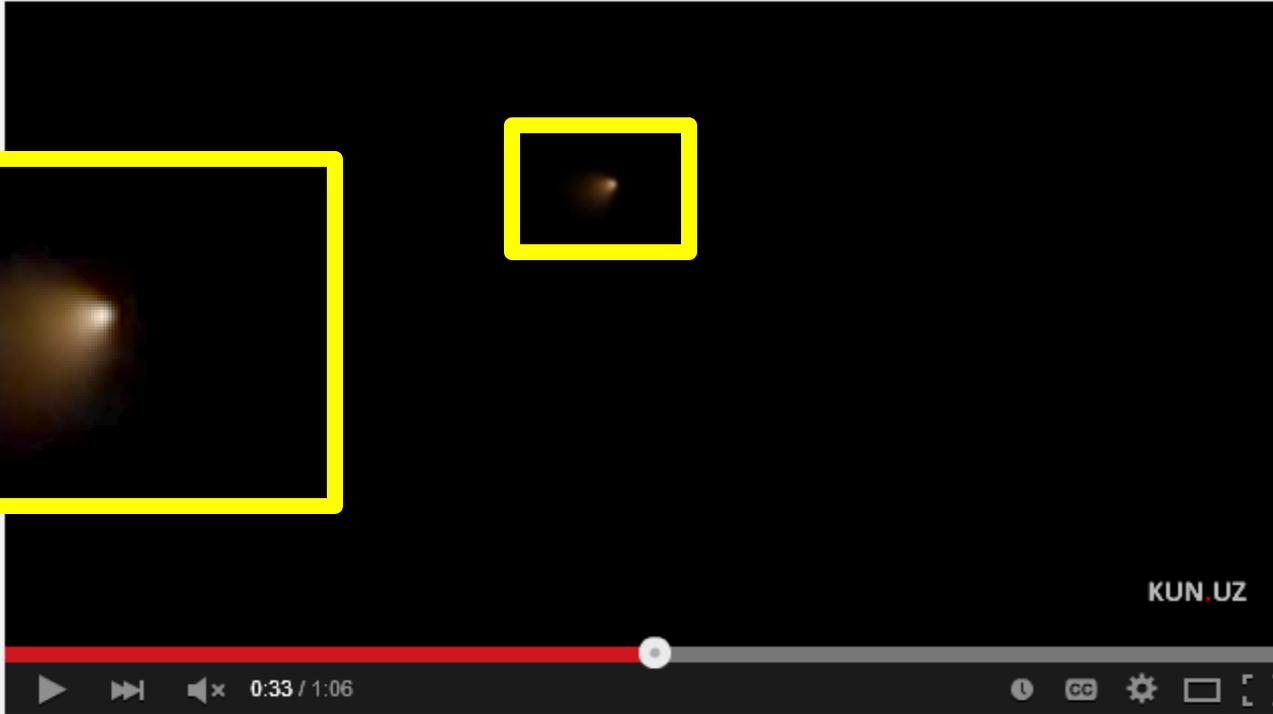
COMMENT: “AGL” -
- Мы тоже видели
сегодня в
Казахстане в
городе Гурьеве
(Атырау).

We also saw it today
in Kazakhstan in the
city Guryev [Atyrau]

<https://www.youtube.com/watch?v=YFpXxB74bGo>

Russia launched an RS-12M "Topol" intercontinental ballistic missile sky view

You Tube



Россиядан учирилган РС-12М "Тополь" баллистик ракетаси Тошкент осмонида кўриниш берди

KUN.UZ

<https://www.youtube.com/watch?v=sCV3KMcf7rk>

Typical aspect from south of track



- Omsk website, attributed to Tashkent observer

Second Tashkent observer



Tashkent news website



- [Link tbs](#)

Tashkent



Olmos, Namanganskiy region, Uzbekistan



Другой участник группы из села Олмос Наманганской области также подтверждает, что увидел этот светящийся объект.

Other sites

- NO Kazakhstan reports.
- TBD
- TBD

Saratov



Saratov is northwest of flight path so aspect angle to plume of outbound vehicle is correct.

http://www.sarinform.ru/sites/default/files/imagecache/img_in_news/images/46/4231_0.jpg
<http://www.sarinform.ru/news/2015/08/24/142893>

Enhanced Saratov –pre-sunset]

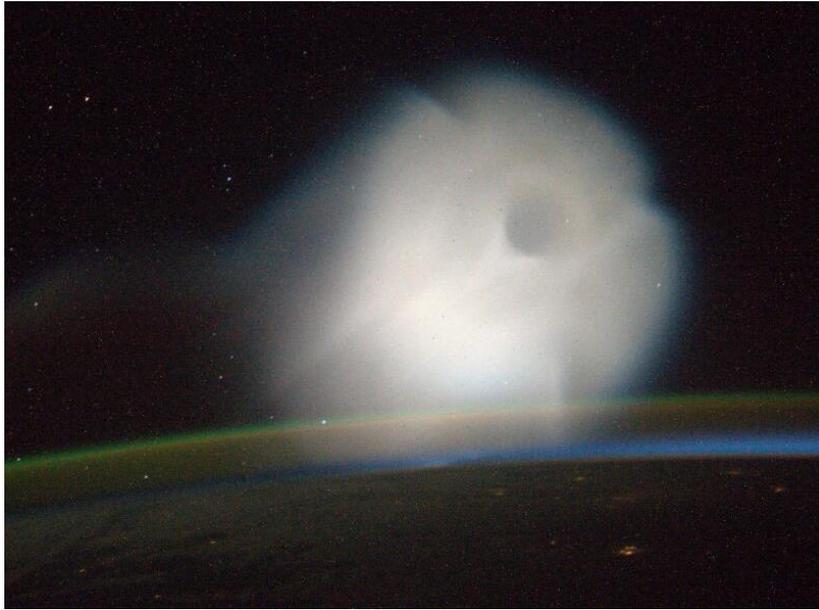


tbs

Why the distinctive plume silhouettes and masking?

- Warhead bus normally trims dispersions and goes to deployment attitude post stage-3
- Compressed flight profile may use bus thrusters to maneuver to stage-3 attitude [180 sec coast]
- Bus thrusters may initiate stage-3 firing
- Actual stage-3 ignition follows quickly [60 sec]
- Silhouettes at aft end of plume may reflect bus thruster early masking by stage-3 structure
- This sequence allows warhead deployment and spinup immediately at stage-3 cutoff [as seen]

Previously noticed plume masking effect present but subdued
[left] ISS view 2013 [right] Uzbekistan view 2013

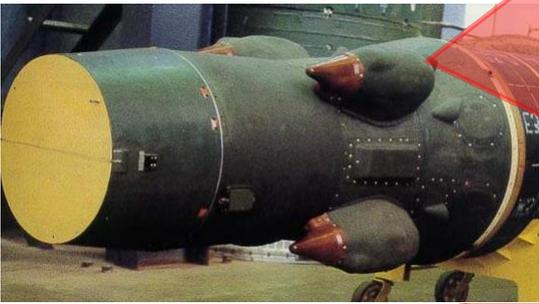


[left] This launch
– Tashkent views

Topol-based commercial satellite launcher shows payload stage thruster firing

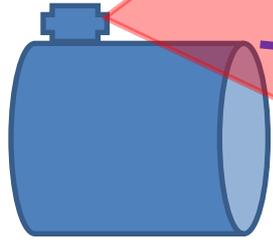


Source – START booster users manual

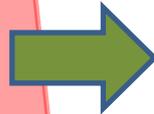


Partial shadowing of stage thruster plumes -- notional

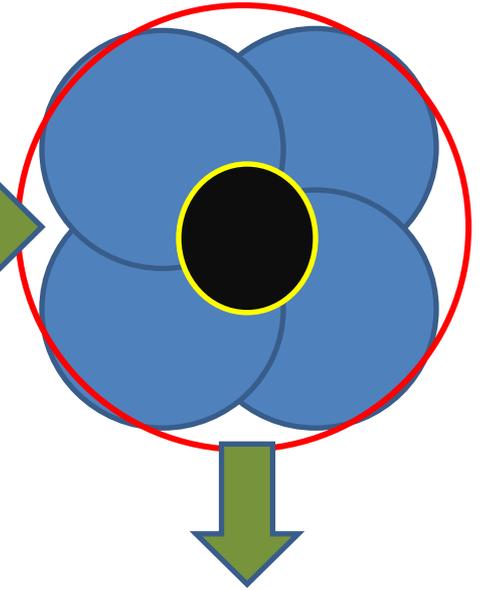
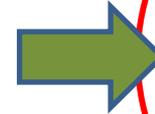
Thruster and plume



Region shadowed by stage aft structure



... times four waist-mounted thruster units, each shadowed by aft structure

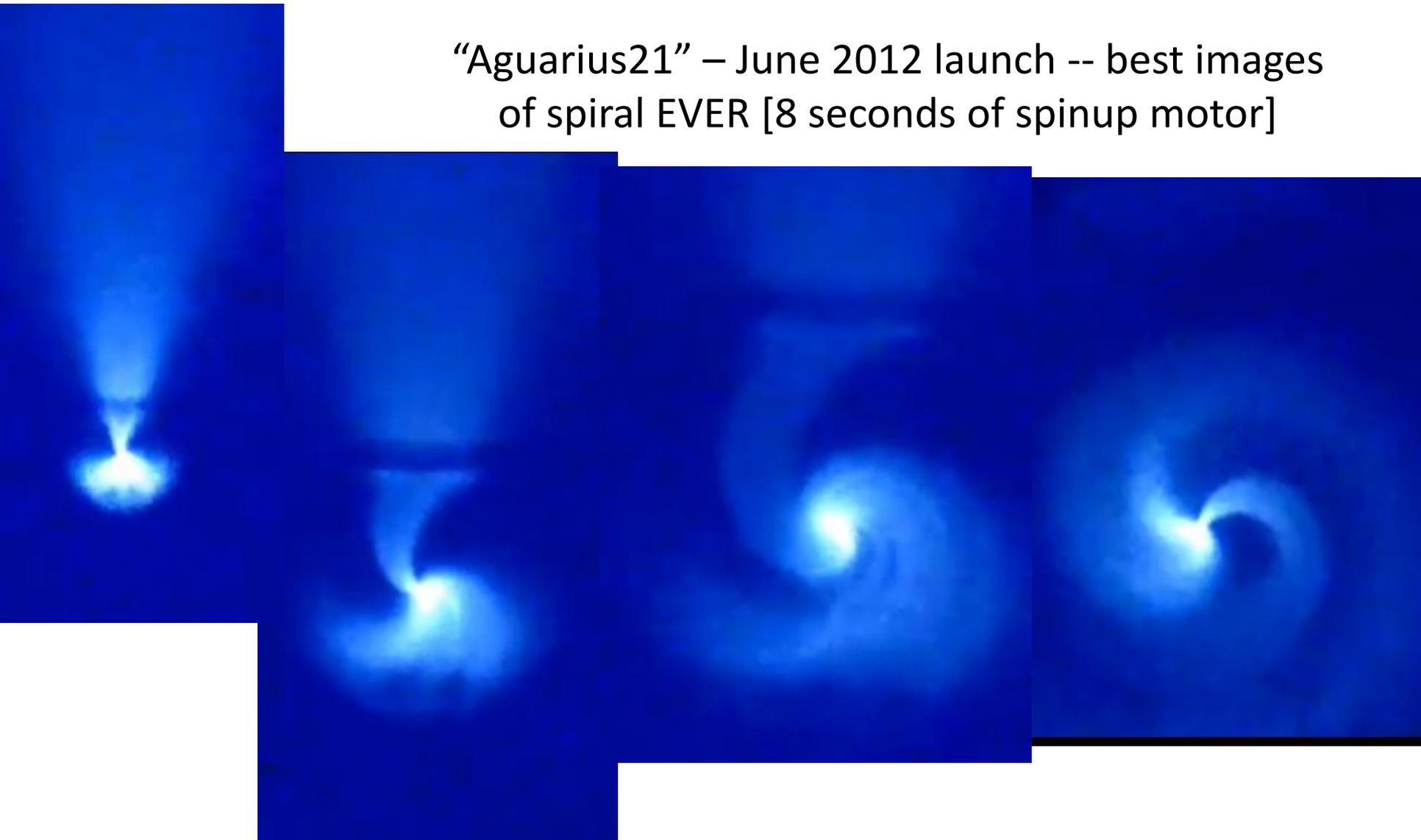


- Similarities between observed cloud shape and thruster layout on Topol ICBM 'battle stage' are compelling
- Degree to which eyewitness videos and reports can characterize performance of top secret weapons system is amazing

Puzzle – no reports of burn termination ‘spiral’

- Standard feature of four earlier observed flights was STRIKING view of spiral at end
- Observed from ground AND once from ISS
- NO eyewitness reports OR images from Aug22
- Was warhead deployment part of THIS test?
- BEST EVER video of previous mission spiral on next page from an observer using stable zoom

“Aguarius21” – June 2012 launch -- best images
of spiral EVER [8 seconds of spinup motor]



Triple plume completes about one full rev prior to fade-out
<https://www.youtube.com/watch?v=AHX6IU7NcO0>

Discussion

- 1.
- 2.
- 3.
- 4.