

Twitter Thread by Haridas Kukkur (Smash Bat-Eaters)



Haridas Kukkur (Smash Bat-Eaters)

@HaridasKukkur



No one can argue against it. One cant fight data (truth).

Here are few pages from a PPT I made 10 yrs ago about precursor of Agni-3 BGRV.

Bharat has "Been there, Done that"

1/n

@vaimaniki @KesariDhwaj @Abdulsaleemgad @Indrani1_Roy @Aryan_warlord



What is BGRV?



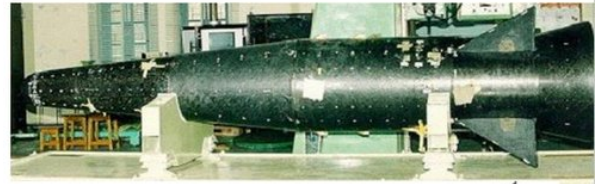
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• Ballistic Glide Re-entry Vehicle



*Figure 8. Boost Glide Reentry Vehicle test
flown from Vandenberg AFB*

Lightning Bolts, First Maneuvering Reentry Vehicles by William Yengst ISBN # 978-1-61566-547-1



Agni's Mk-II MARV/BGRV



Indian composite BGRV Missile (K-15)



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@GODOFPARADOXES @vaimaniki @KesariDhwaj @Abdulsaleemgad @Indrani1 Roy @Aryan warlord Those in doubt should read:

Lightning Bolts, First Maneuvering Reentry Vehicles
by William Yengst ISBN # 978-1-61566-547-1

<https://t.co/yzCF2wubba>

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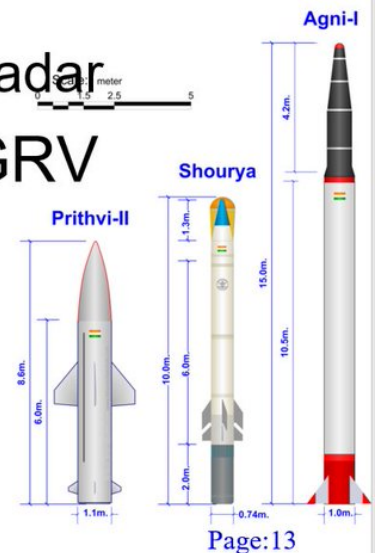


Shourya



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- BGRV
- Booster lifts BGRV to 5 Km
- Main stage imparts kinetic energy for cruise at 40 km altitude
 - Evade space sensor and ground radar
- Main stage stays attached to BGRV
 - Small Radar RCS
- Fins for hypersonic cruise flight



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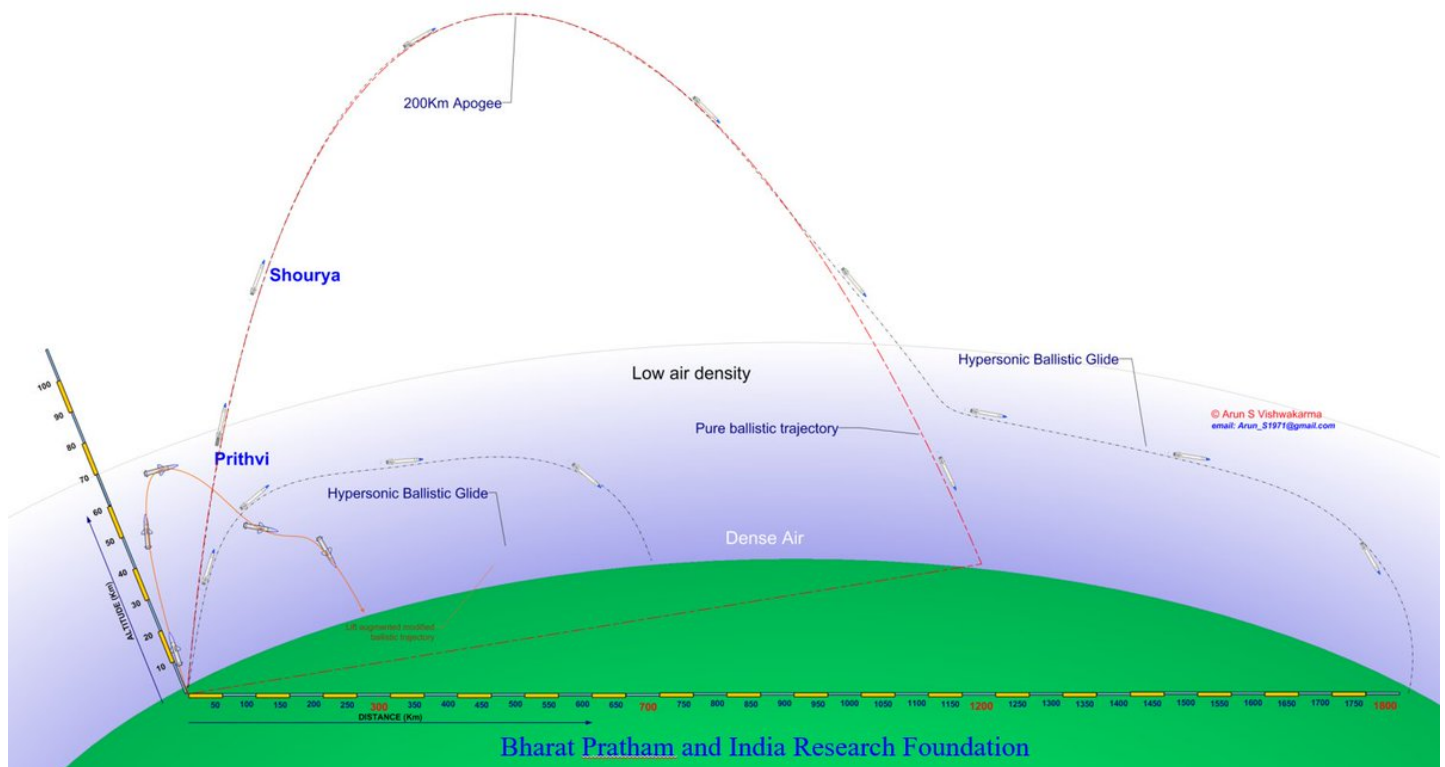


Shourya flight types

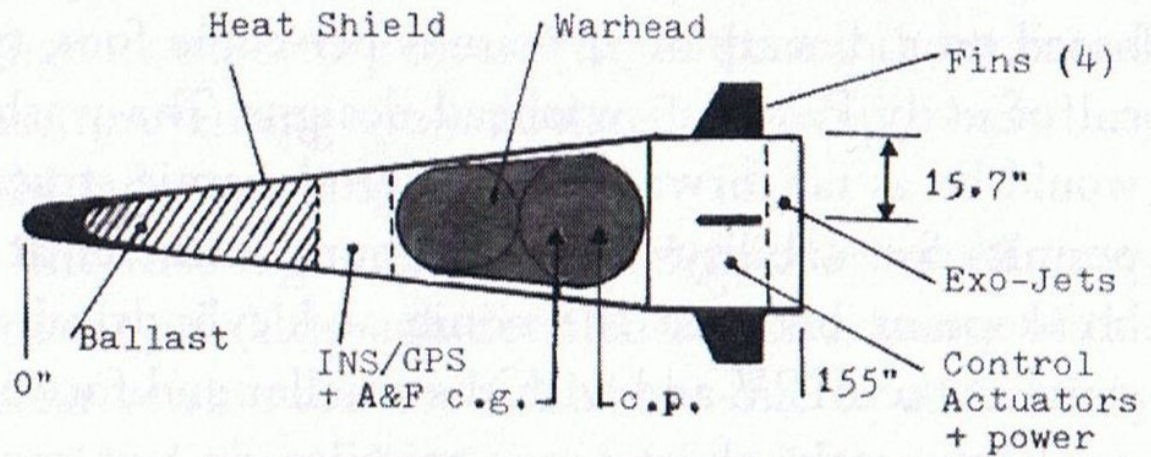


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Shourya/Sagarika : Hypersonic BGRV Missile



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Approximate Weights (pounds)

- Warhead... > 660
- Heat shield/shell... ~ 450
- Exo-Atmospheric Jets... 30
- Actuators + Power... 100
- Ballast... ~ 250
- INS/GPS + Power... 150
- Control Fins (4)... 32
- Base Cover/fittings... 40
- Arm & Fuse... 50

Total Weight... ~ 1,762 pounds

Lightning Bolts, First Maneuvering Reentry Vehicles by William Yengst ISBN # 978-1-61566-547-1

*Figure 29. Hypothetical M-11/M-11A
reentry vehicle design characteristics*

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He is the father of American MARV & BGRV program

BTW I gave permission to Bill Yengst to use my material for his book. ■■



Agni MRV/BGRV



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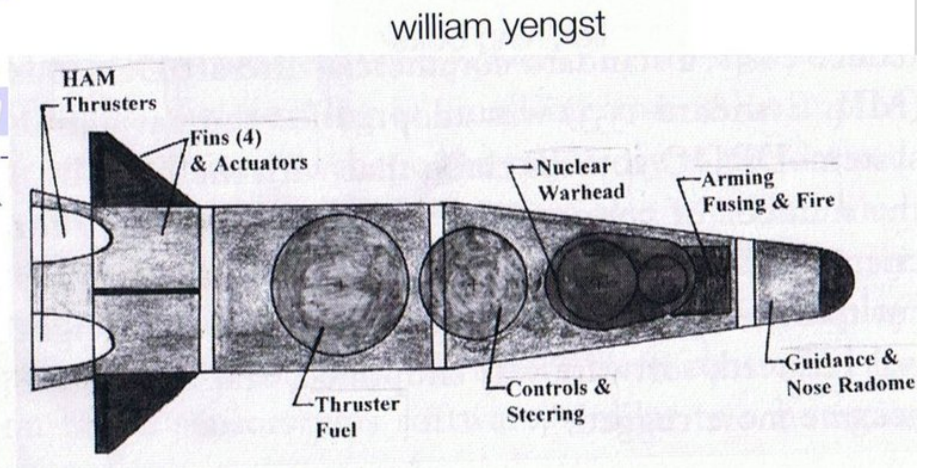
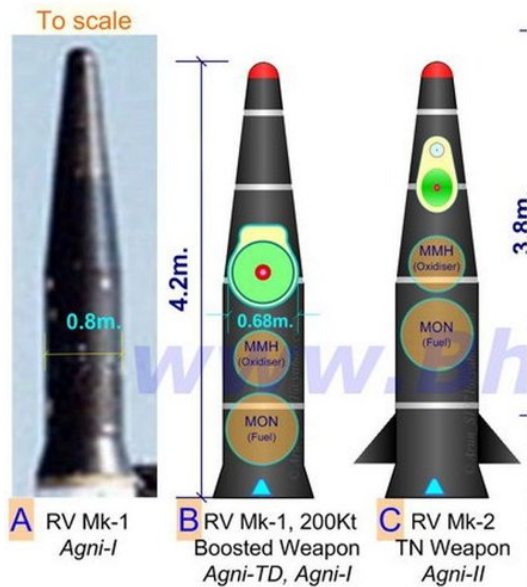


Figure 26. Agni-II MRV layout

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• Maneuvering Ballistic RV:

– Pitch

– CrossRange

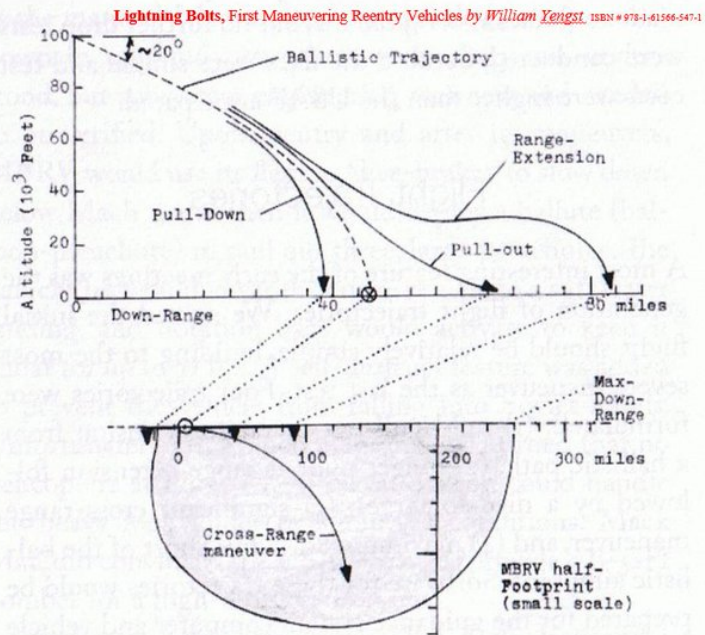


Figure 9. Representative MBRV trajectories and maneuver footprints

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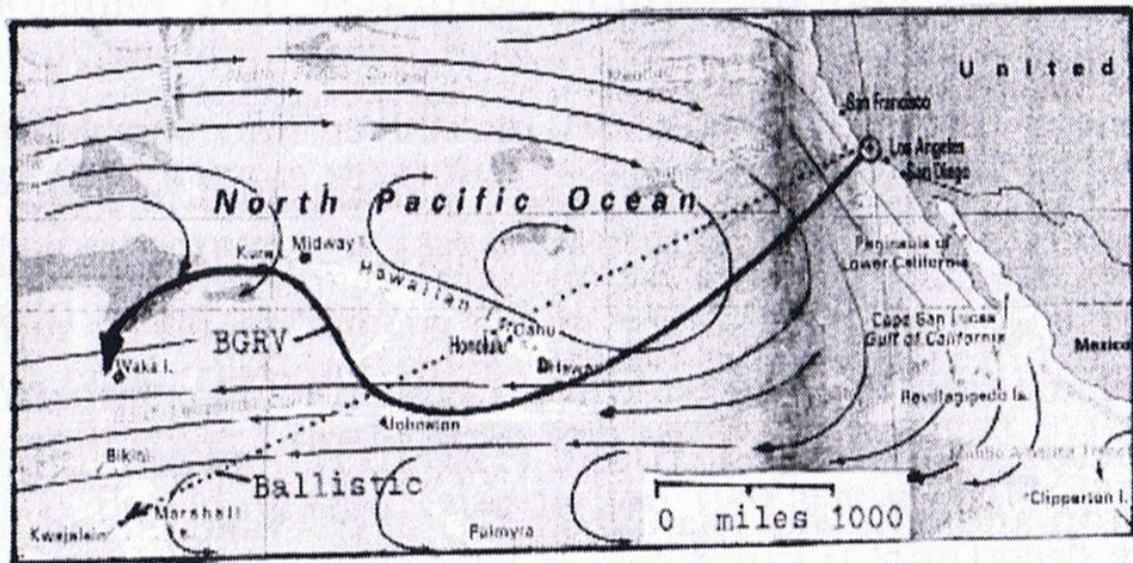


What is BGRV?



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- “S” Curve on Azimuth plane



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*Figure 13. BGRV flight test route from
Vandenberg AFB to Wake Island*

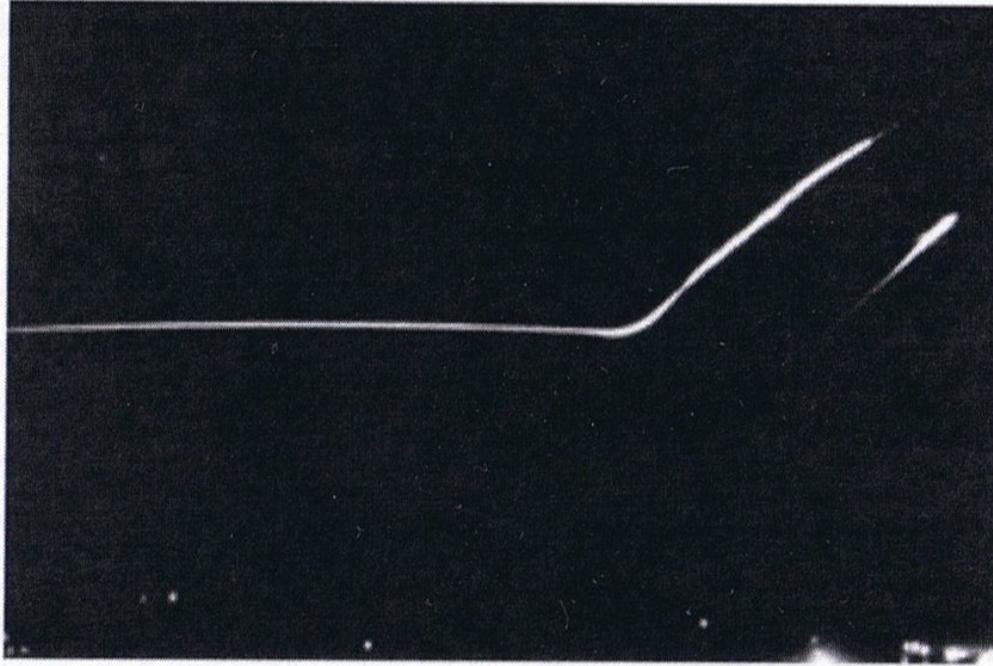
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MaRV re-entry trajectory change to transition to high Hypersonic flight (> MACH 15)



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Figure 20. AMaRV-1 reentry flight trajectory (upper light streak) and booster missile stage (below) over Kwajalein

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US MRV



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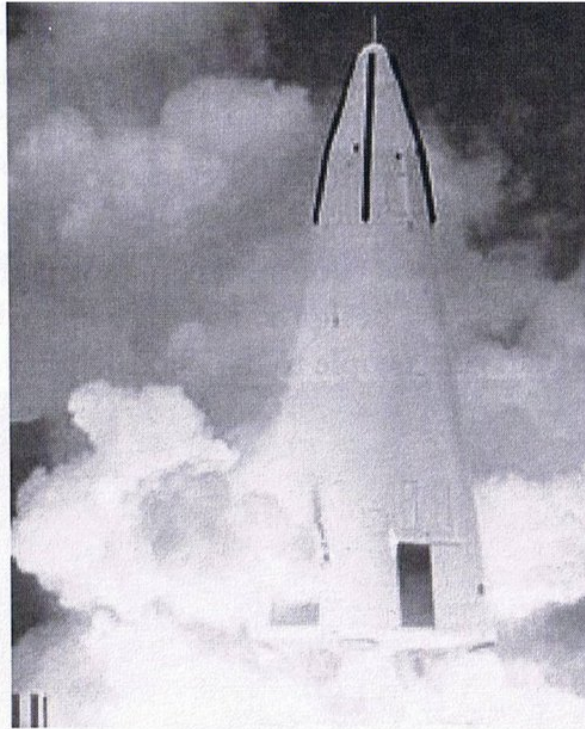


Figure 21. NASA vertical-takeoff and landing vehicle (DC-X)

Navy Mark 5 Maneuvering
Reentry Vehicle (MRV)

MRV Mk4A

Lightning Bolts, First Maneuvering Reentry Vehicles by William Yengst, ISBN # 978-1-61566-547-1

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Pershing-II MARV



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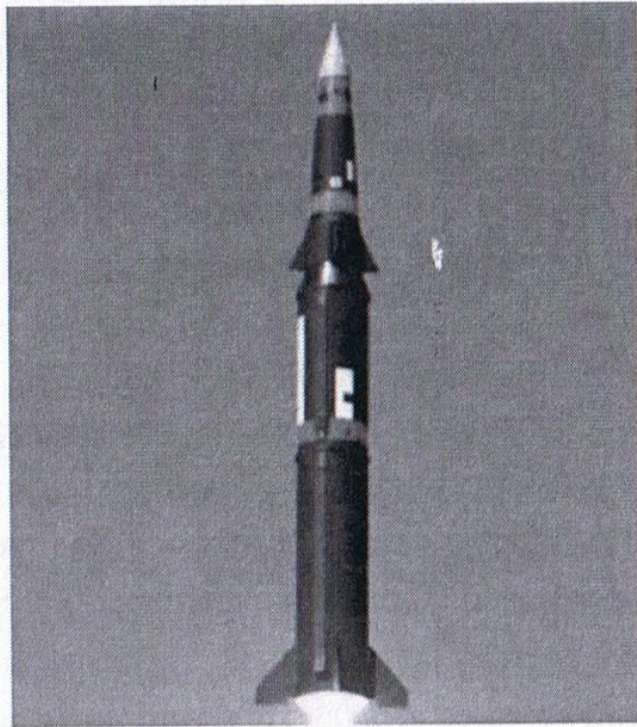


Figure 24. Pershing-II missile showing the MARV payload

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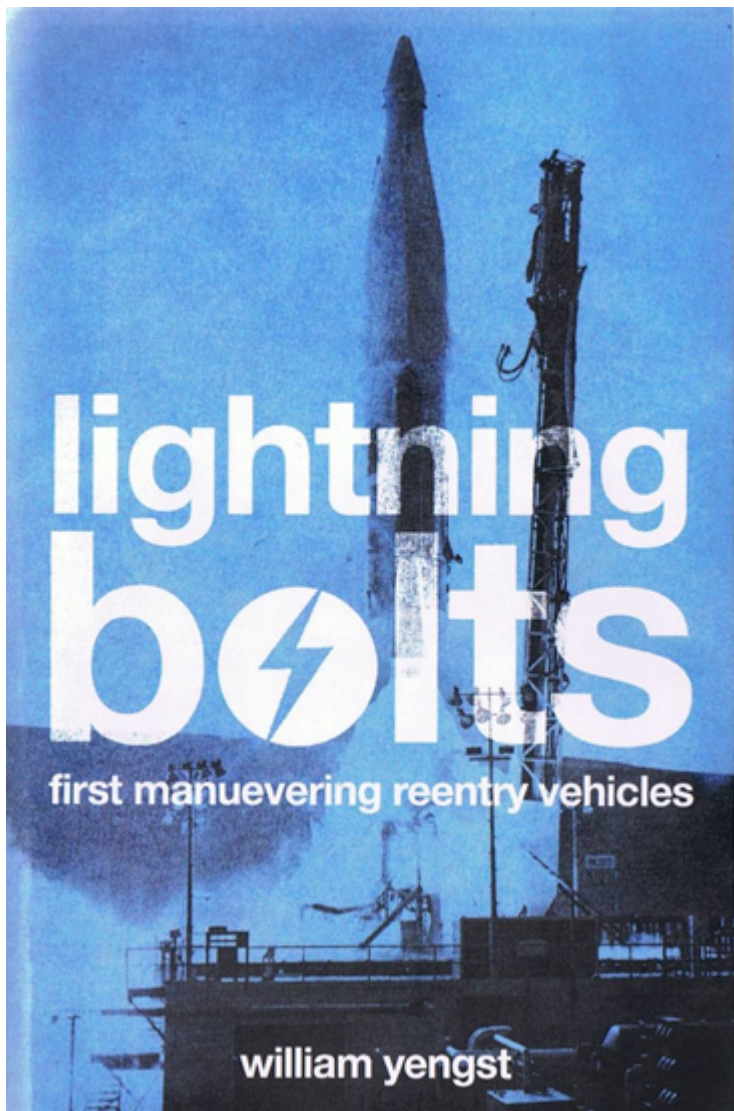
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One should read this book.

<https://t.co/yzCF2wubba>

Iti (anth)

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lightning bolts

first maneuvering reentry vehicles

william yengst