

Is the U.S. Ballistic Missile Defense Program driving a New Nuclear Arms Race with Russia and China?

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Workshop

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President Putin said “yes!” on 1 March

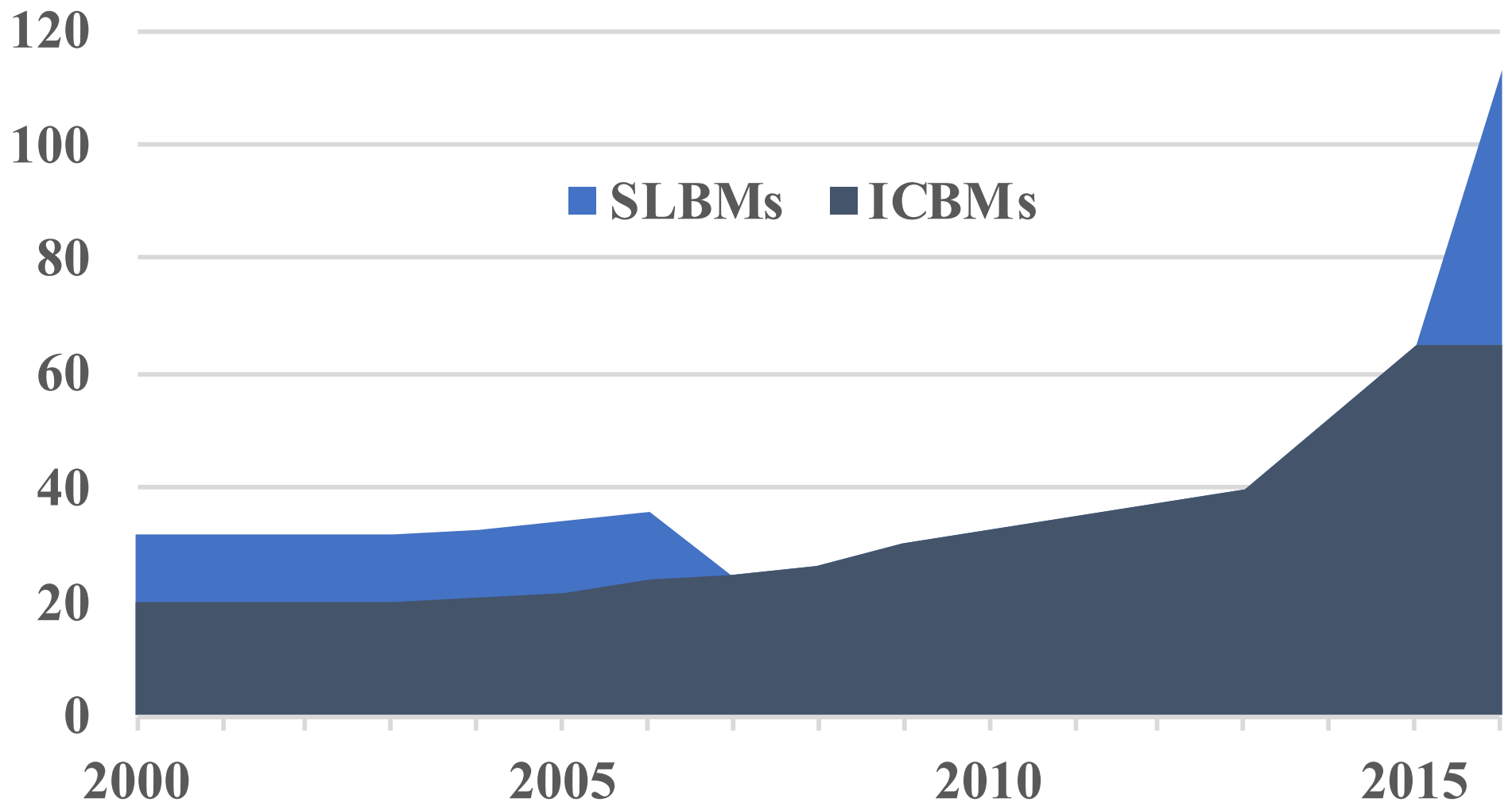
“I will speak about the newest systems of Russian strategic weapons that we are creating in response to the unilateral withdrawal of the United States of America from the Anti-Ballistic Missile Treaty and the practical deployment of their missile defence systems both in the US and beyond their national borders...”

“There are new missile defence systems installed in Alaska and California...one has already been created in Romania, while the deployment of the system in Poland is now almost complete...new launching areas are to be created in Japan and South Korea. The US global missile defence system also includes five cruisers and 30 destroyers, which, as far as we know, have been deployed to regions in close proximity to Russia’s borders.”

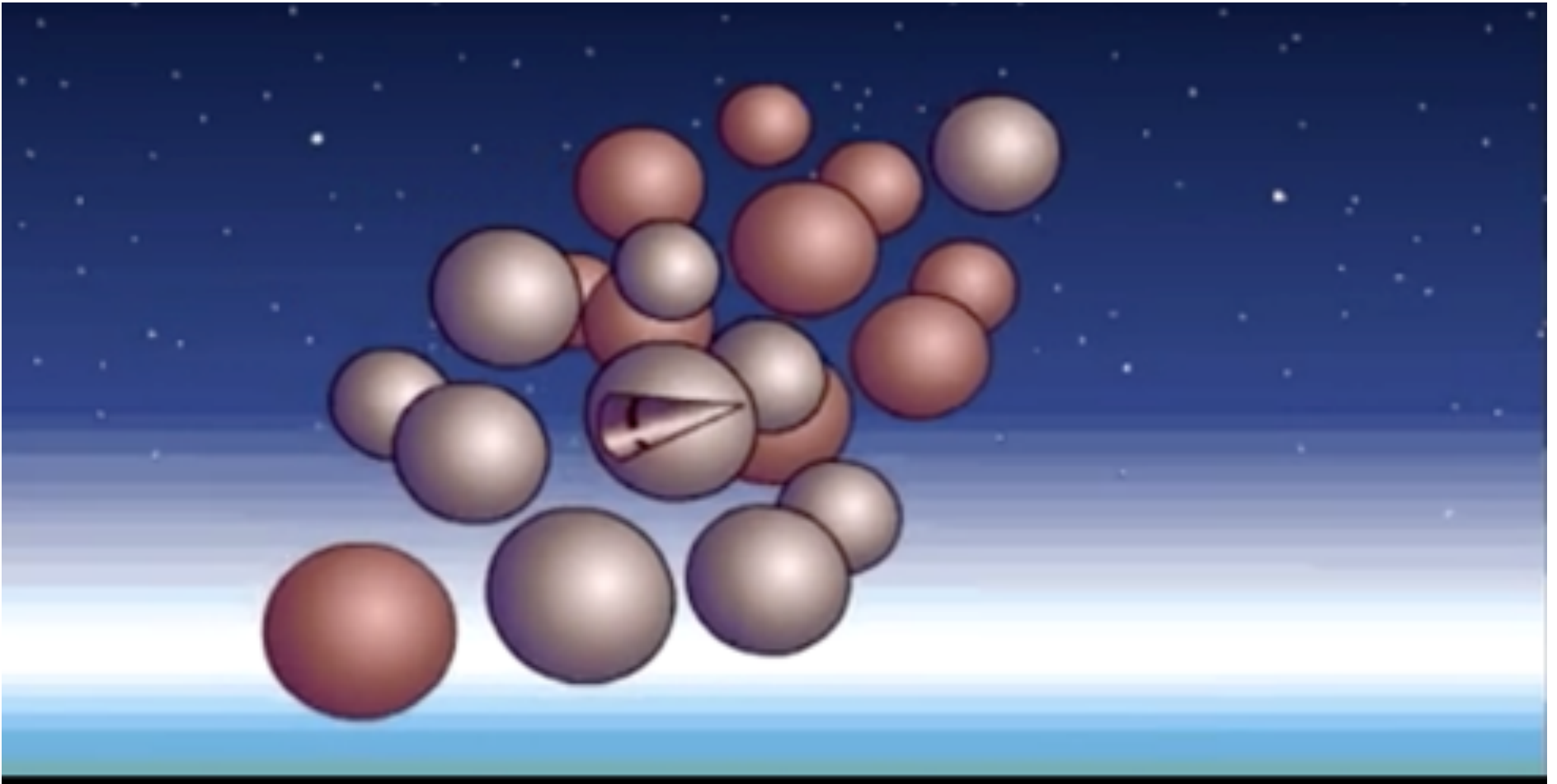
Russia's proposed response

- *Penetration aids (decoys, etc)* “modestly priced systems to overcome missile defence are installed on all of our intercontinental ballistic missile complexes.” [*In a rational world, this would be sufficient*]
- “*Sarmat [ICBM]* can attack targets both via the North and South poles.”
- A “*low-flying stealth [nuclear-powered cruise] missile* carrying a nuclear warhead, with almost an unlimited range.”
- “*unmanned submersible vehicles that can move at great depths ...intercontinentally*, at a speed multiple times higher than the speed of submarines... can carry either conventional or nuclear warheads...to engage various targets, including aircraft groups, coastal fortifications and infrastructure.”
- “*a high-precision hypersonic aircraft missile system*...delivering nuclear and conventional warheads in a range of over 2,000 kilometres”
- *hypersonic-speed, high-precision [boost-glide] weapons systems* that can hit targets at inter-continental distance and can adjust their altitude and course as they travel.”

China's buildup of ICBM and SLBM warheads
puts a floor under Russian and U.S. bilateral reductions.
China now deploying ICBMs with multiple warheads.



Penetration aids can easily neutralize U.S. exo-atmospheric interceptors. An example:



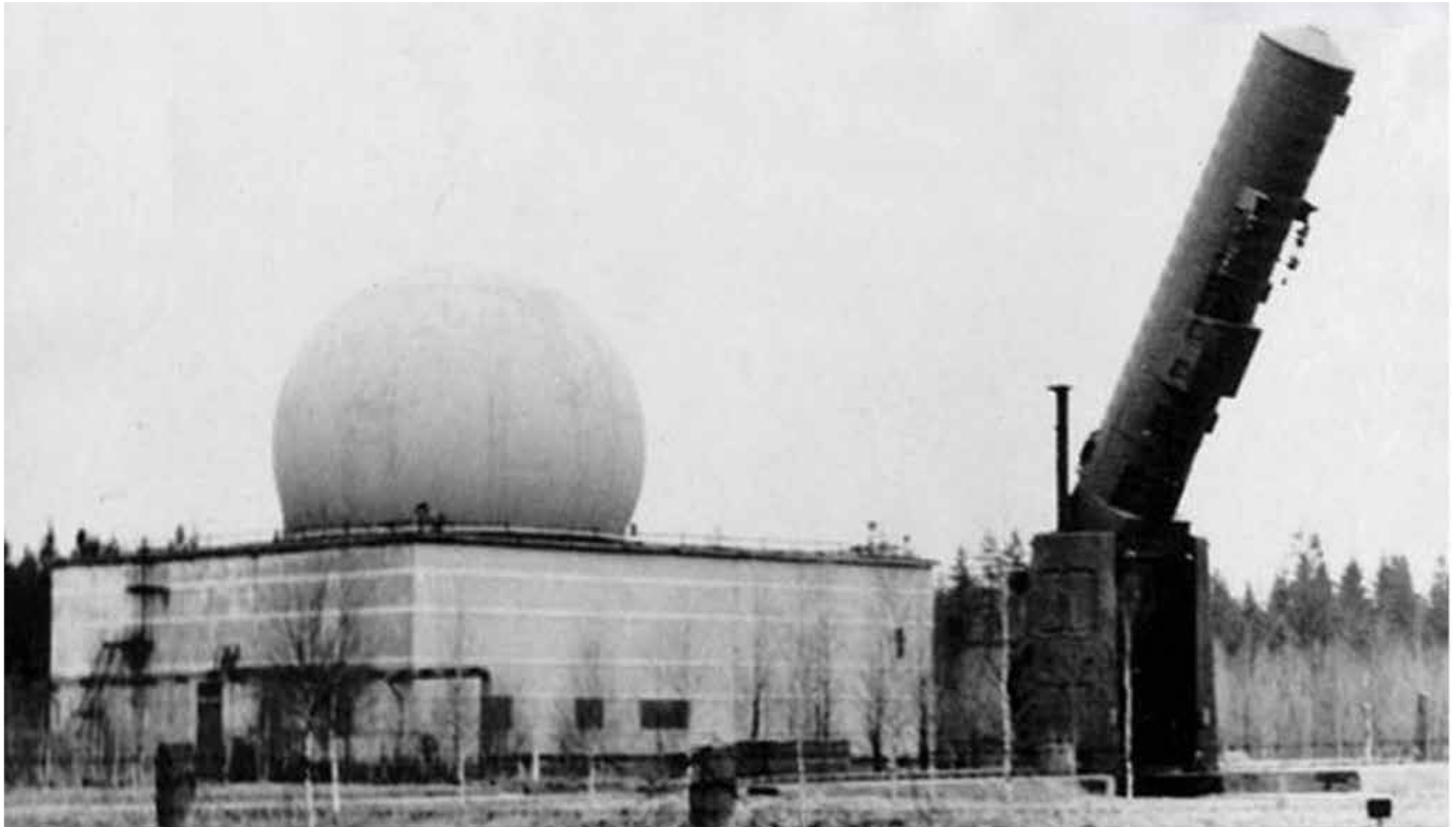
Anti-simulation. Put the warhead in an aluminized balloon and surround it with other aluminized balloons, each with a little ~6-Watt heater in it to raise its temperature to a level comparable to that due to the plutonium in the warhead.

<https://www.ucsusa.org/nuclear-weapons/us-missile-defense/countermeasures#.WwBZ-ExFyM8>

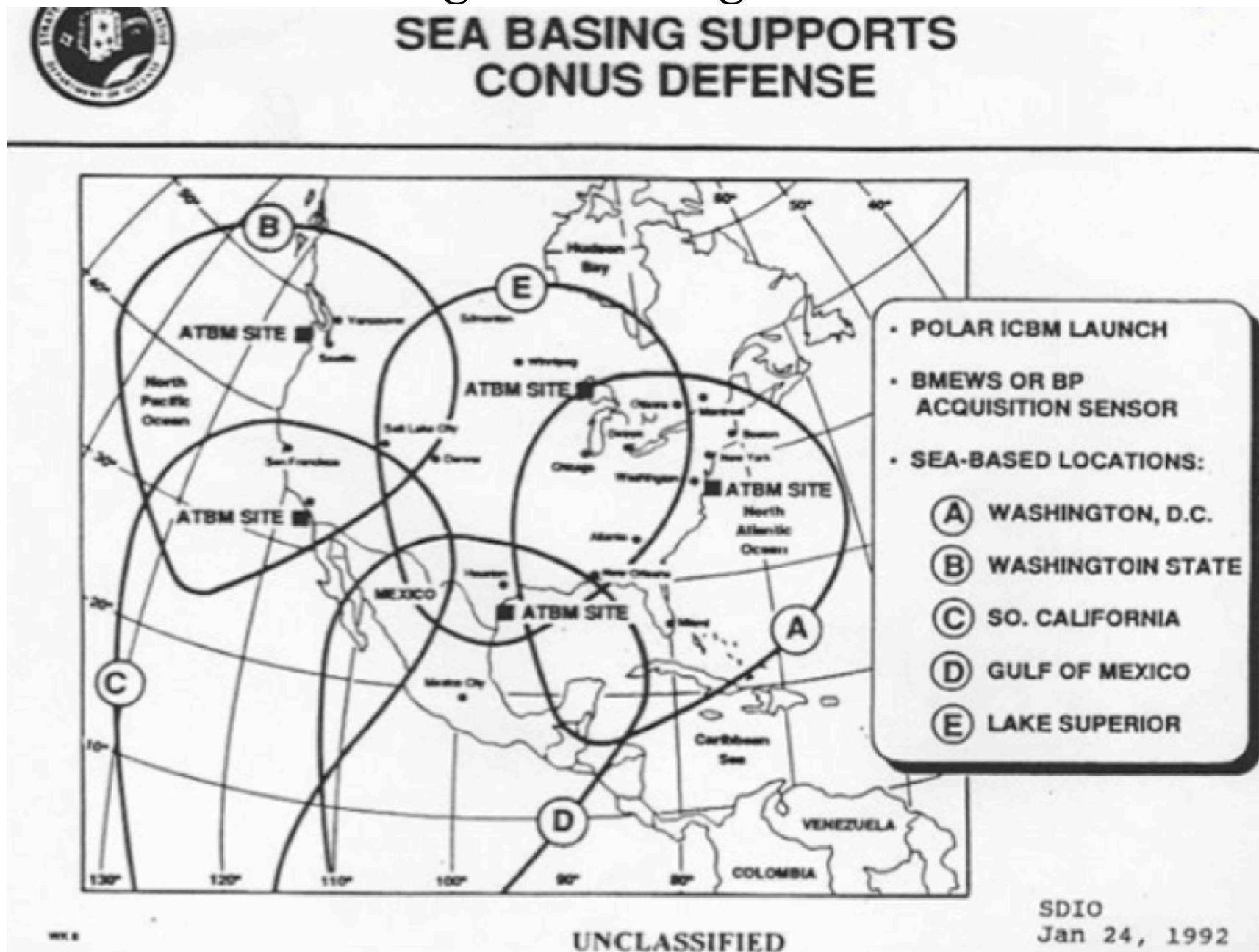
But that is not good enough for worst-case analysts

In 1968, *designers of Moscow's BMD system, which had 64 interceptors thought they might be able to destroy one incoming warhead. The U.S. was confident that its penetration aids would work but, as insurance, decided to overwhelm the system by targeting it with more than 100 warheads.*

"The Protection Paradox," Bulletin of the Atomic Scientists, 2004, <https://www.tandfonline.com/doi/pdf/10.1080/00963402.2004.11460771>

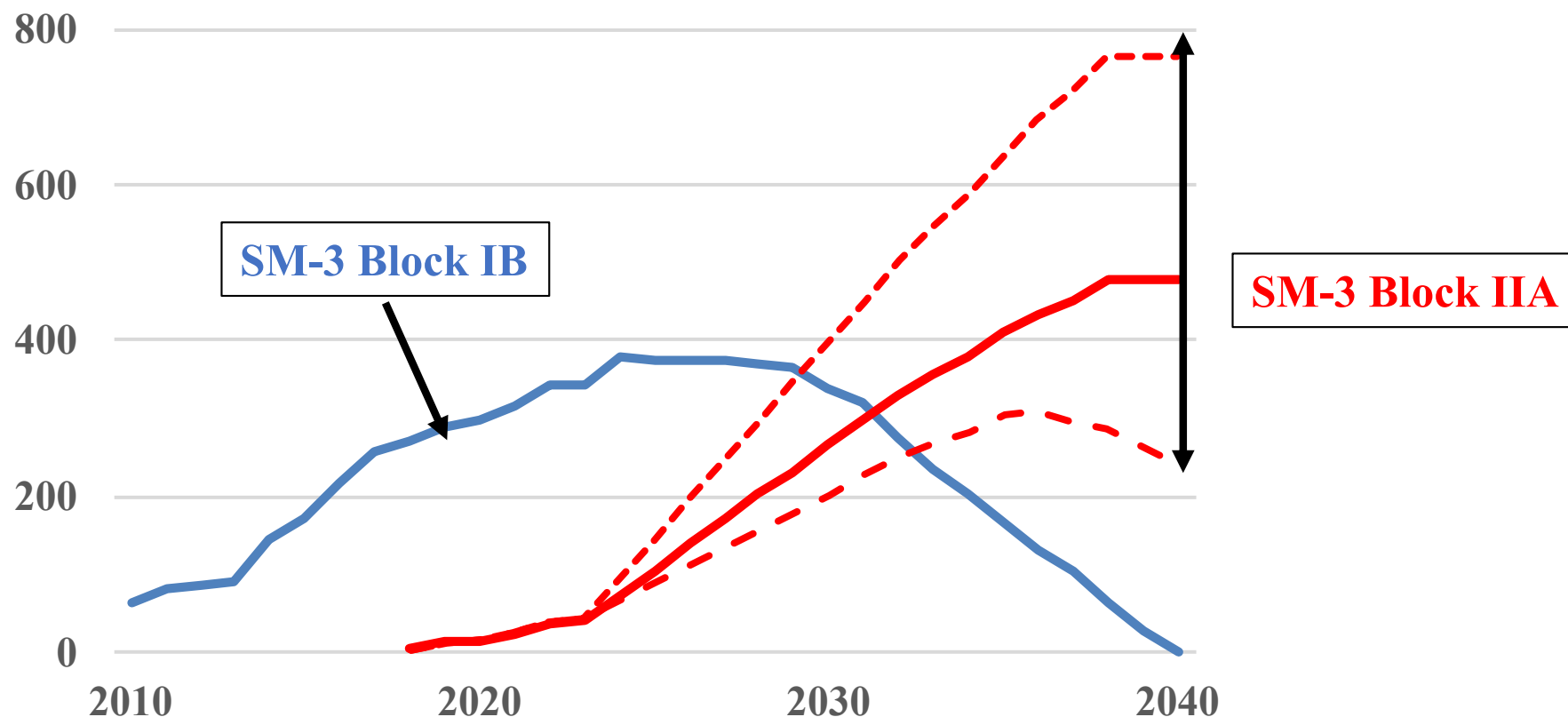


Concern about the new U.S. Navy SM Block IIA interceptor is that, *in the absence of countermeasures*, it could be deployed to defend against strategic missiles.

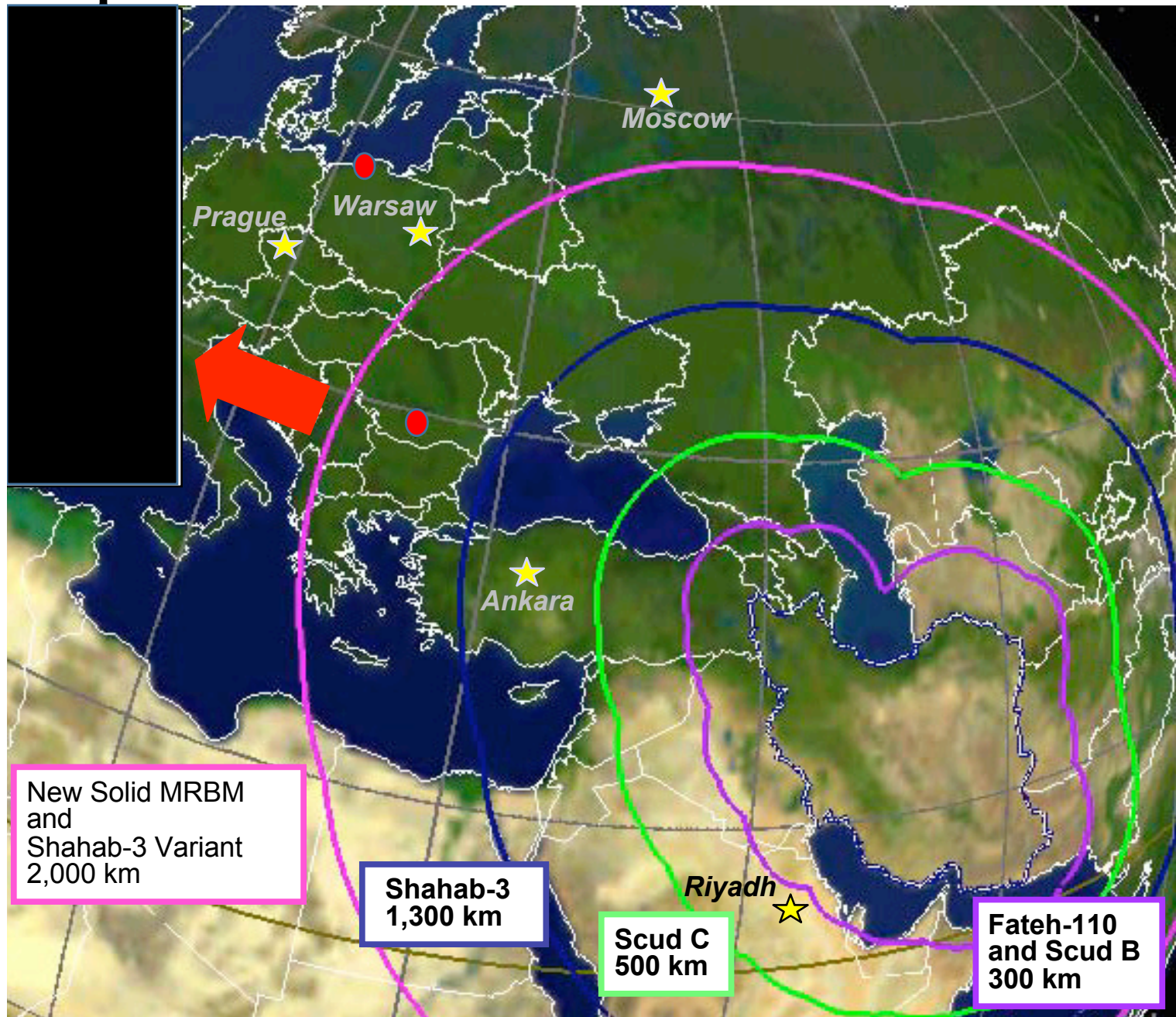


Is it too late for limitations on U.S. BMD systems?

1. Key limit in 1972 ABM Treaty was *100 long-range interceptors*. Today, U.S. has 40 at Fort Greeley, Alaska plus 4 at the Vandenberg Air Force Base and plans for expansion to a total of 104. *A huge waste of money.*
2. Key limit in 1997 Theater Missile Defense demarcation agreement was an *interceptor burnout speed of 3 km/second*. U.S. has not yet deployed faster interceptors but plans to deploy hundreds of SM-3 Block IIA interceptors with 4.5 km/sec burnout velocity on Aegis destroyers and at Aegis Ashore sites, starting in 2020. *Can this deployment be limited?*



Iran has not developed the nuclear weapons or longer-range missiles that motivated Aegis Ashore installations and Iran's Supreme Leader has ordered that such missiles not be developed.



If the order could be turned into a binding international commitment, could that be a basis for US withdrawal of Aegis Ashore from Eastern Europe?

Critical steps to save nuclear arms-control

- 1. The U.S. should impose unilateral limits on its systems that could be used for defense of the continental United States against Chinese and Russian ballistic missiles.*
- 2. Russia should similarly restrain itself with regard to adding new dimensions to the nuclear arms race.*
- 3. Russian-US cooperation is required to save the INF Treaty.* Both sides have issues but they should be dealt with, not used as an excuse to destroy the Treaty.
- 4. The New START Treaty should be extended* for an additional 5 years to 2026 to hopefully get strategic arms control past this difficult period of Russian-U.S. relations.