

# Proposal of a method which can realize the total abolition of nuclear weapons

Kiwamu Takehisa  
O2 Laser Laboratory

# Contents

1. Self introduction
2. Motivation for the proposal
3. Current situation toward the total abolition of nuclear weapons
4. Details of the proposal

# 1. Self introduction

2. Motivation for the proposal

3. Current situation toward the total  
abolition of nuclear weapons

4. Details of the proposal

## Self introduction

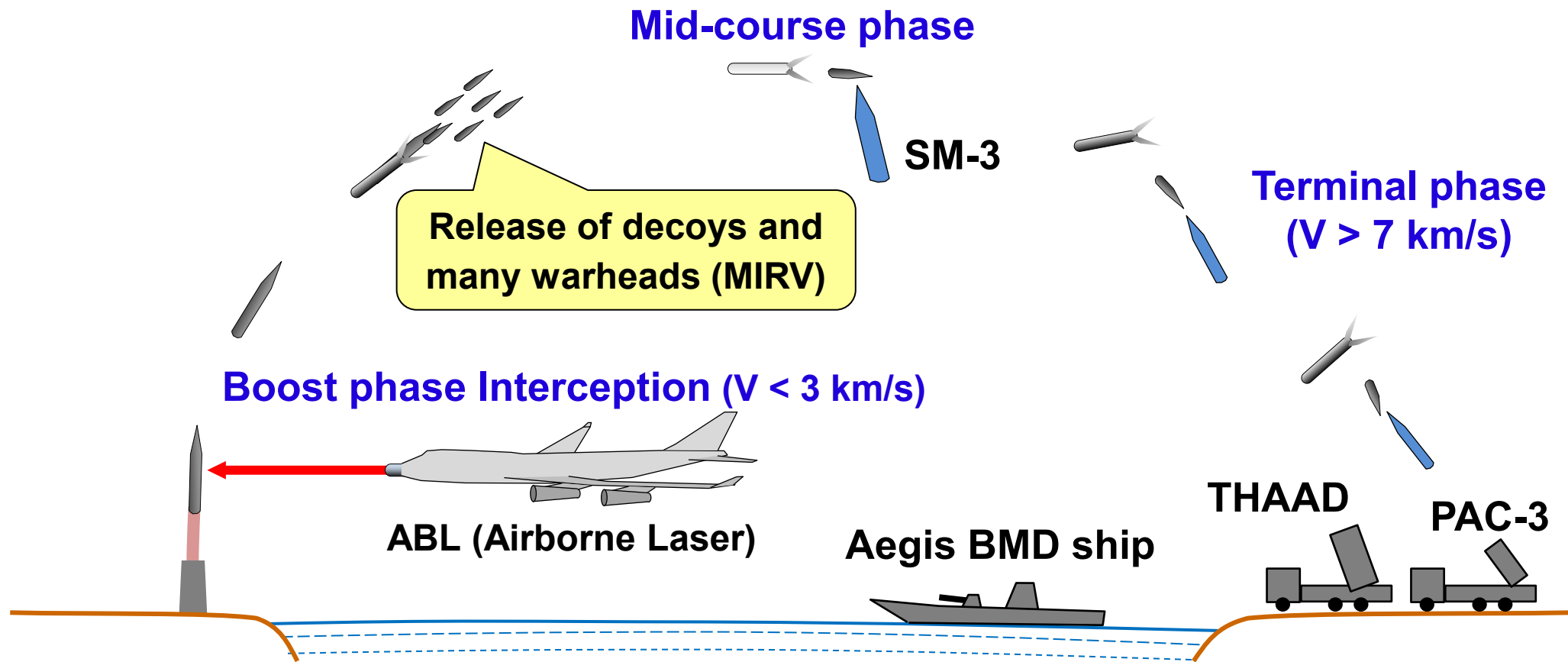
I was a university student in the 1980s which was the era of the Cold War between the United State and the Soviet Union. I joined a laser laboratory where various lasers for SDI were being developed. I was conducting various R&Ds concerning a chemical-oxygen iodine laser.

Since after graduating the university, I have joined 3 companies and 2 university laboratories to develop various high-power lasers for industrial applications such as lithography and uranium enrichment.

In 2020, I founded a laser laboratory to realize a new pulsed high-energy laser. It will be used to treat cancer and destroy ICBMs.

1. Self introduction
- 2. Motivation for the proposal**
3. Current situation toward the total abolition of nuclear weapons
4. Details of the proposal

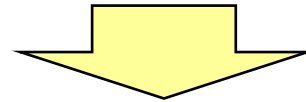
# For ballistic missile defense, laser interception would be ideal.



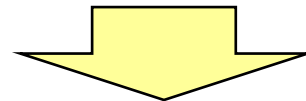
Boost phase interception is the best way since ICBM can be easily detected, it moves slowest, and it does not release the warheads yet. However, since the ICBM locates far away, only laser can realize.

## Conventional laser and the ideal laser for missile defense

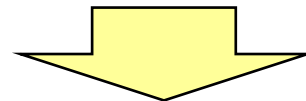
Most of conventional lasers are continuous wave (CW).



In order to destroy a missile, laser needs to be focused at the same position of the missile housing for seconds. This requires beam tracking technique that is quite difficult especially the missile flies at supersonic speed. Therefore, lasers are mostly used to destroy drones which fly at much lower speed.



A pulsed high-energy laser (HEL) is desirable to shoot down ICBMs.



**Although, it can shoot down ICBMs, shooting down a stealth missile is difficult.**

## Another way of avoiding nuclear attack would be necessary

Shooting down ICBMs by lasers  $\Rightarrow$  North Wind

Encourage abolition of nuclear weapons  $\Rightarrow$  The Sun



Aesop's Fables: The North Wind and the Sun

1. Self introduction
2. Motivation for the proposal
- 3. Current situation toward the total  
abolition of nuclear weapons**
4. Details of the proposal

# Current situation toward the total abolition of nuclear weapons

During the Ukraine war, there were fears that Russia might use nuclear weapons. As a result, there may be an increasing number of people in non-nuclear states who believe that as long as they possess nuclear weapons, they will not be invaded by other states.

## The limitation of NPT

Since the treaty guarantees nuclear-weapon states's military superiority, there is likely to be no incentive for nuclear-weapon states to voluntarily give up their nuclear weapons.

## The limitation of TPNW

Because the development of nuclear weapons is prohibited, it is difficult to create an environment in which a particular nuclear-weapon state would be willing to join and give up its nuclear weapons despite a hostile nuclear-weapon state is possessing nuclear weapons.

**Under existing treaties, it would be extremely difficult to get nuclear-weapon states to decide to give up their nuclear weapons of their own accord.**

1. Self introduction
2. Motivation for the proposal
3. Current situation toward the total abolition of nuclear weapons
- 4. Details of the proposal**

It is necessary to make it extremely difficult for nuclear-weapon states to use nuclear weapons, and to achieve this,

**Wouldn't it be useful to have a multilateral treaty under which, if nuclear weapons were actually used in a war, the member states should impose pre-determined sanctions on the state that uses nuclear weapons, even if they were not involved in the war?**

Sanctions are usually decided after the fact through discussion, but since the use of nuclear weapons is a criminal act that cannot be tolerated from a humanitarian perspective, it may be better to determine the minimum level of sanctions in advance.

It is important to make the sanctions extremely strict so that the people of that country will be aware that they will face great hardship if they use nuclear weapons.

In addition, it would be preferable to make it easier for nuclear-weapon states to join by only targeting the use of nuclear weapons in war, regardless of whether they possess or develop them.

## Proposed clause

Since it is difficult to impose military sanctions on nuclear-weapon states, the focus is on economic sanctions and restrictions on human exchanges.

- (1) The member state will impose a trade embargo and asset freeze on any nuclear-weapon state for a period of at least 20 years.**
- (2) Contracting states will ban entry to the country from nuclear weapon states for a period of at least 10 years, except for asylum seekers.**
- (3) Any member state that violates (1) or (2) above will be subject to a three-year trade ban.**

The reason for adding (3) to the clause is that it is anticipated that member states may hesitate to impose sanctions if the state that used nuclear weapons is a major power, and this would allow them to impose sanctions without hesitation.

## Against retaliatory nuclear attacks

It should also cover retaliatory nuclear attacks. The reason is that tolerating retaliatory nuclear attacks would not only escalate the nuclear exchange, but it would also be necessary to deter intentional nuclear attacks based on fake information that a nuclear attack has been launched. If retaliatory nuclear attacks were excluded, it would be unlikely that nuclear-weapon states would voluntarily give up their nuclear weapons.

Instead, a clause (similar to Article 6 of the TPNW) should be added that would oblige all other member states to provide all possible relief, assistance, and reconstruction to a member state that is subjected to a nuclear attack.

## Desired effect

This proposed treaty will not be effective unless a large number of countries join, but even if it takes 100 years, if more than 100 countries join, it is hoped that nuclear weapon states will come to believe that the possibility of a nuclear attack from other nuclear weapon states has decreased and will voluntarily abandon their nuclear weapons.

In addition, we hope that member countries that have imported large amounts of resources from nuclear weapon states will be faced with resource shortages due to the imposition of sanctions, and will begin to prioritize non-nuclear weapon states as their resource import sources in peacetime. We also hope that this will encourage nuclear weapon states, which are major resource exporters, to consider that there are economic benefits to not possessing nuclear weapons.

## Challenges of the proposal

1. Is there any state that can offer the new treaty?
2. What to do about an attack to a nuclear power plant?

## An image of the proposal

**Making ostracism to the state which has used nuclear weapons in a war**

