

SPACE WEAPONS

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Abstract

The 'Peace in Space' initiative was conceived by students and young space professionals at the Space Generation Forum (SGF), at UNISPACE-III. The initiative was further developed at the Space Generation Summit (SGS), an event at the World Space Congress (WSC) which brought together 200 youth from over 50 countries to discuss and plan for future space activities and policy, and to revitalise the energy of young people in the space sector.

Most young space enthusiasts believe that humanity has a shared interest in a peaceful future in space. The recent demise of the ABM treaty, the lack of a comprehensive ban on weapons in existing space treaties, and American plans to deploy space weapons combine to create an urgent situation. International policy must be developed to regulate the peaceful use of space, prohibit the deployment of space weapons, and prevent an arms race in space. In this paper, we propose a comprehensive strategy to prevent the weaponisation of space. This strategy consists of three key steps: 1) creating a knowledge-base and increasing the profile of this issue, 2) convincing the US Congress to cut spending to a planned space weapons test bed, and 3) laying the groundwork for comprehensive international space security agreements.

This report is the result of a two-year youth working group with the end goal of ensuring the formation of regulatory mechanisms to prevent space weapons. After a brief history, we concentrate on the next steps required to help this situation. The working group has developed these ideas through discussions, meetings with military and United Nations diplomats, and discussions from the recent Pugwash conference dedicated to raising the profile of this international and inter-generational issue.

Why now?

This discussion is urgent because most developed nations possess the technology for developing and deploying weapon systems in space and the use of space weapons is relatively unrestricted. Moreover, political and military leaders in some developed nations have expressed support for the development and deployment of space weapons. Deployment may be imminent. It is critical that this dialogue takes place now, prior to the deployment of space weapons. Once deployed, it may be difficult to abolish space weapons, even if they prove useless or destabilizing before the onset of an arms race in space.

In this paper we seek to put the question of space weapons on the current international political agenda. To that end, and to encourage public debate on the subject, we first offer a brief introduction to the topic,

including history, and relevant definitions. The short and long-term consequences of deployment are then discussed. Finally, we detail a comprehensive strategy to address this pressing issue.

A Brief History of Space and Defence

The military use of space is not new. The access to, and utilization of space is of national interest in terms of security, and economically. In addition to the economic potential of the exploitation of space and celestial bodies, space is the ultimate military high ground. Indeed, expenditure on space by the military has consistently outweighed civil spending. Even some scientific exploration missions have arguably been dominated by military objectives, such as the pursuit of technological supremacy during the Cold War which led both to the first satellite (Sputnik, 1957), and human (Yuri Gagarin, 1961) in space, and culminated with the manned lunar program (Apollo, 1963-72).

Historically, space military assets have been passive, concentrating on reconnaissance, communications, and navigation. No publicly acknowledged space weapon has been deployed to orbit, to date. The most serious related effort came during the parallel anti-satellite (ASAT) programmes developed by the US and Soviet Union during the 1960s. Specifically, these programs developed nuclear pumped X-ray lasers, space-based optical lasers, radiation belt weapons, ground-based reflected laser systems, and space-based interceptors. The testing of these systems was periodically

prohibited or not funded by the US Congress during the 1980s and 1990s. The US military also expressed its disinclination to use kinetic kill ASATs because they tend to create large clouds of space debris. Even though these initiatives were not carried through, they created a technology base that would enable the near-term deployment of space weapons.

The potential components of future space weapon systems are already being used in current, passive, military space systems, and even in the civilian space sector. The telemetry, tracking, and control systems of a commercial communications satellite, for example, are very similar to analogous systems within a basic space weapon. Sensor and targeting technologies used in commercial remote sensing satellites have direct application to a space weapon system.

The broader international community has meanwhile repeatedly stated its support for space to be used solely for peaceful purposes. This position was codified early in the space age by the 1967 Outer Space Treaty (OST), in which 102 states to date, including the US and former USSR, have recognized the common interest of humankind in the peaceful exploration and use of outer space. In 2001, the UN General Assembly approved by a 156-0 vote the basis for a treaty establishing a permanent prohibition on space-based weapons (Resolution 56/535). The United States abstained. What remains at issue is the meaning of "peaceful." The United States and many other nations hold that peaceful does not mean non-military. The United

States and other nations, citing the United Nations Charter's acknowledgement of the inherent right of states to self-defense, reserve the right to use military force, including weapons for "defensive" purposes. They maintain that the use of defensive weapons in outer space is thus not prohibited by any international agreement, save the Outer Space Treaty prohibitions on weapons of mass destruction and military bases on the moon and other heavenly bodies.

Against this background of inactivity and caution, some have been advocating the development space weapons with strike capabilities. In April 2003, for example, the United States Congressman representing NASA's Florida base stated his support for weapons deployed in space, "We must adopt a doctrine that states that we as a nation will vigorously pursue the ability to project power to, through and from space against any aggressor." He also noted, "It would be inappropriate to deny ourselves this advantage simply because of romantic notions of some that space is some type of sacred place."

Perhaps more significantly, representatives of the United States military have advocated a strategy to include the deployment of space weapons within a matter of a few years. However, this position has not yet been adopted at the highest level. In fact, many military officers regard space-based weapons dubiously. The military focus on space, however, has been reaffirmed repeatedly in key documents such as Air Force Vision 2020, and other strategic planning documents.

Space Security Strategy

We present here a strategy to prevent the weaponisation of space. It was developed through the Pugwash Conferences on Science and World Affairs Workshop on the Weaponisation of Space. This strategy consists of the following three mechanisms: 1) creating a knowledge base and increasing the profile of this issue, 2) convincing the US Congress to cut spending to the planned space weapons test bed, and 3) laying the groundwork for comprehensive international space security agreements.

These three mechanisms are presented in greater detail below:

1. Increase the knowledge base

a. Space Security Index

A research-based trend analysis initiated by the Canadian Department of Foreign Affairs and International Trade (DFAIT) that provides a net assessment of the collective progress, or lack of progress, towards space security. The Canadian Space Security Index is envisaged to measure twelve indicators within three themes of space security; space environment (e.g. space debris, allocation of orbital slots), the intentions of space security actors (e.g. space military doctrine) and capabilities of space security actors (e.g. launch capabilities, ASAT, space weapon capabilities). This would facilitate a constructive international dialogue on the weaponisation of space.

i. Coordinate a network of experts on space, especially from the scientific community, in order to facilitate the Space Security Index (SSI) and fulfill specified research and analysis needs

ii. Produce publication on space security to collate the knowledge base gathered in the SSI.

b. Increase Salience

i. Networking: reaching out to public, space scientists and space users

ii. Encourage the development of a Space Security Bulletin to inform the space community of recent news

iii. Convene a conference with Committee on Space Research (COSPAR) potentially on Space Weaponisation

iv. Reach out to commercial actors and industries using space assets and increase their awareness of the effects of the weaponisation of space

v. Increase public outreach through space NGOs

c. Further Research and Rigorous Analysis

i. Feasibility of threats to space-based assets from ASATs launched by non-traditional space powers

ii. Feasibility of a 'Space Pearl Harbor' scenario

iii. Space Security Index

iv. Costs and Benefits of space weapons

v. The impact of space weapons on the commercial space sector

2. Political Initiatives towards the prohibition of space weapons

a. Prevent the deployment of a US test-bed, planned for 2008

i. Engage the US Congress in dialogue to cut spending from space weapons development prior to a critical debate

ii. To convene a workshop to improve the understanding of the issue amongst politicians.

3. Laying the groundwork for a comprehensive space security approach

a. Initiate discussions with the US Military, Congress and the White House

b. Increase the visibility of existing as well as new research and reports

c. Use high-profile spokespeople to capture public attention

d. Organize an international space security summit

e. Consider the pros and cons of advocating a moratorium on no first testing, deployment or use of space weapons

g. Create a timeline for political/legal initiatives

i. On-going work on CBMs (debris management, compliance issues, etc.)

ii. Increase the number of parties supporting the Outer Space Treaty (OST), to move towards universalisation

iii. UNGA resolution to multilateralise agreement on non-interference with space assets, building on the provisions in the CFE and other treaties

iv. Negotiate the banning of ASAT, weapons in and from space, and create international rules of the road regulations, either as a protocol to the OST or as separate legal instruments.