

Forum: Disarmament Committee

Issue: Developing international measures to prevent the weaponization/militarization of outer space

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Introduction

Ever since the space race of the 20th century, the utilization of space has first become an unprecedented innovation, and now a part of our daily lives. With technologies such as satellite communication, Global Positioning Systems (GPS), TV broadcasting and weather forecasts, the place of Outer Space technologies is detrimental in day-to-day life in the 21st century. This rise in extraterrestrial technological advancement has, however, like many other technological advancements in human history, brought with it risks relating to weapons technologies and the use of space as a medium for warfare.

Weaponization of Outer Space was, right after the Space Race of the 1960s, became a topic of urgency in the United Nations General Assembly. With rising technologies paving the way for horrific weapons of mass destruction, including nuclear weapons, the Outer Space Treaty was signed by many Member States to prevent the deployment, or the utilization of such weapons in space, while also allowing for a universal and peaceful exploration of all celestial bodies, including the moon. Although it does prevent the use of any sort of weapons of mass destruction in space, the Outer Space Treaty does not fully prevent its weaponization, which could be in various forms, such as but not limited to the disruption of States' communication technologies. As of 2026, the Outer Space Treaty still holds, and there are currently no weapons of mass destruction in orbit.

Though treaties such as the United Nations Outer Space Treaty and initiatives such as the Prevention of an Arms Race in Outer Space (PAROS) are valid and operational today, rising tensions between States, and the proposed risk for different kinds of warfare make it all the more detrimental to set clear and concrete measures in protecting extraterrestrial grounds from being weaponized.

Definition of Key Terms

Outer Space: The region beyond Earth's atmosphere—thus, the entire universe (including planets, stars, and galaxies) except Earth and its immediate surroundings. (Encyclopædia Britannica)

Weaponization: The act of turning something such as bacteria, poisonous chemicals, etc. into weapons that could kill or injure many people, or of putting weapons into a place. (Cambridge Dictionary)

Weapon(s) of Mass Destruction (WMDs): A weapon with the capacity to inflict death and destruction on such a massive scale and so indiscriminately that its very presence in the hands of a hostile power can be considered a grievous threat. Modern weapons of mass destruction are either nuclear, biological, or chemical weapons. (Encyclopædia Britannica)

International Humanitarian Law: International humanitarian law is a set of rules which seek, for humanitarian reasons, to limit the effects of armed conflict. It protects persons who are not or are no longer participating in the hostilities and restricts the means and methods of warfare. (International Committee on The Red Cross)

Anti-Satellite Weapons (ASAT): Earth-based or space-based weapons whose purpose is to physically damage, disable or harmfully interfere with satellites and spacecraft in orbit (The Spationary)

Co-Orbital Weapons Systems: Co-orbital weapons are weapons that are placed into orbit and later manoeuvred to approach and attack a target satellite through different means, including in destructive and non-destructive ways. (United Nations Office for Disarmament Affairs)

General Overview

Cold War, Space Race & Development of Space Technologies

After the Second World War ended in 1945, the world was in a vulnerable and disorganized state politically and economically. What ensued in this environment of turmoil was a “cold war” between the United States (US) and the Union of Soviet Socialist Republics, or the USSR (now known as the Russian Federation). The Cold War between the US and the USSR was not a direct military conflict, but rather one where the front was proxies, or economic and political grounds. Propaganda, weaponization of other States and technological races were some of the weapons used in the Cold War, which ended in 1991 after the USSR’s dissolution.

One of the key parts of the Cold War was the Space Race, which was a competition between the USSR and the US to be the first nation to bring mankind to the moon, which took place between 1957 and 1969. The Space Race is regarded as one of the most important milestones in space technologies, because it produced both the first satellite and person to orbit the Earth, and also the first ever humans to land on the moon. What emerged after the SR was a proliferation of various space technologies, among which was the possibility of the weaponization of the newly discovered domain.

In 1962, during the Space Race, the United States detonated a nuclear bomb in Outer Space with Project Starfish Prime. The experiment showed all of humanity that nuclear explosions in space posed a threat to the safety of not only mankind, but also Earth as a planet. Realizing the implications of nuclear weapons, or any other WMDs in Outer Space, the United Nations General Assembly put forth the Outer Space Treaty, which prohibited any WMDs from being put into Earth’s orbit.

Modern Space Age

Towards the end of the 20th century, many new technologies such as GPS, guided missiles and satellite communication technologies were developed. Over time, many countries started relying more and more on satellite technologies not only for military operations, but for day-to-day utilization. With the advent of new technologies however, the possibility of other sorts of weapons, such as ASAT weapons or co-orbital weapons systems being put into orbit, the integrity of space is at risk. Though many solutions were discussed, most notable among them being the PAROS agenda under UNCD, no treaty was signed regarding the use of satellite-related weapons systems or electrical warfare in outer space.

The weaponization of outer space, as in its currently limited permissance, poses a risk to the satellite technologies of all nations. Four nations, namely China, the U.S., Russia and India, have already demonstrated their ASAT technologies in tests to take down their own satellites, which served as a showcase of their power to demolish any satellite. ASAT or co-orbital weapons systems designed to destroy a satellite in orbit, or system infiltration of different satellites through hacking all pose a risk to nations' sovereignty and safety. Because nations are technically allowed to deploy such weapons from Earth, or place them in orbit, a military conflict could potentially spread out into space, and besides all the technical implications, debris created by destructed satellites is also a pollutant risk for the use of outer space for the future.

Major Parties Involved and Their Views

United States

The United States is perhaps the most technologically advanced nation when it comes to space technologies, both civilian and military. The United States Space Force, which was established in 2020, now serves as the sixth official branch of the U.S. Armed Forces. While the United States advocates for peaceful uses of outer space, the nation is one of four to hold and to have conducted tests with ASATs. The United States withdrew from the Anti-Ballistic Missile Treaty in 2002, opening the way for the advancement of defensive and offensive systems relating to air-borne and outer space warfare.

Russian Federation

The Russian Federation, as the other party involved in the Space Race of the 60s, still is a prominent actor in affairs related to outer space. With well-developed space technologies and previously performed ASAT tests, Russia opposes the militarization of space although they still develop systems with counterspace capabilities.

China

As a nation with strong military and technological capabilities, China is one of the Member States with the strongest space-related military force. Just like the U.S., China also has a dedicated branch of the military specifically for outer space, called the People’s Liberation Army Aerospace Force. With the development of ASATs, Co-Orbital systems and satellite jamming technologies, though it is a part of the Outer Space Treaty, China is keen on military activity relating to the use of space.

United Nations Conference on Disarmament

The UN Conference on Disarmament (CD) is an important ground where the weaponization of Outer Space is discussed. Its third agenda item, out of seven, pertains to the “Prevention of an arms race in outer space.” (UN CD) specifically. The conference comprises a total of 65 Member States, and operates in line with the UN General Assembly on a yearly basis, from mid-January until June.

European Union

As of 2022, the European Union recognizes space as a “strategic domain,” and aims to incorporate measures for its protection from threats posed by space warfare. It actively calls for inter-state collaboration and cooperation to “promote norms, rules and principles of responsible behaviours in outer space through concrete and pragmatic steps.” (European Union)

North Atlantic Treaty Organization

As a military alliance, NATO’s mandate pertains to that which is military in nature. In 2019, NATO has noted space “as an operational domain, alongside air, land, maritime and cyberspace.”, although it proclaims that “The Alliance has no intention to put weapons in space.” (NATO)

Timeline of Events

August 2, 1955	Beginning of the Space Race, as the USSR responds to the US’s initiative to put satellites into outer space.
1959	The UN General Assembly establishes the Committee on the Peaceful Uses of Outer Space (COPUOS)
July 8, 1962	The US detonates a nuclear bomb in space as part of research for Operation Starfish Prime.

January 1967	The Outer Space Treaty is signed by 63 States, and is left open for signature
1975-1991	First the end of the Space Race, followed by the end of the Cold War as a whole
1985	The UN Conference on Disarmament opens its PAROS branch, with talks beginning for a treaty to prohibit weapons placement in space
1985 - Present	Development of ASAT technologies and other space-related weapons systems, while no treaty on PAROS is signed.

Relevant UN Documents

<https://docs.un.org/en/A/AC.294/2023/WP.13>

<https://docs.un.org/en/a/res/79/18>

<https://www.un.org/en/global-issues/outer-space>

<https://disarmament.unoda.org/en/our-work/emerging-challenges/outer-space>

<https://docs.un.org/en/A/RES/75/36>

Treaties and Events

<https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/outerspacetreaty.html>

<https://www.nti.org/education-center/treaties-and-regimes/proposed-prevention-arms-race-space-paros-treaty/>

Evaluation of Previous Attempts to Resolve the Issue

While the Outer Space Treaty serves as a backbone to preventing the weaponization of outer space, due to it being older than fifty years, the treaty does not bring urgent attention to the matter, and because regulations on space weaponization technologies aren't thorough enough, the current system fails to prevent weapons such as ASATs or satellite weapons systems from being deployed,

due to the treaty only prohibiting WMDs specifically.

PAROS, as discussed in the United Nations Conference on Disarmament, although proposing effective measures to tackle the issue, suffers from inefficiency due to a mutually agreed-upon treaty not being produced. While many resolutions are passed in an effort to put an end to weapons being deployed in, or directed towards, outer space, because a solid treaty isn't signed and ratified by Member States, the propositions of the UNCD end up hanging in the air and not having legal ground.

Possible Solutions

Possible solutions to the issue must include effective, applicable, and agreeable measures to be implemented. Legally binding treaties between States, such as could be discussed in the UNCD, are important to the issue for curating lasting and resilient solutions. On top of WMDs, any weapons relating to outer space should be discouraged, if not restricted, to allow for safe exploration and an equal use of outer space. For success to be achieved, disarmament efforts have to be carried out collectively with political dialogue laying the groundwork. A PAROS treaty under the UNCD, if agreed upon by all major actors, would be an easy and efficient way to help solve the issue.

Beyond treaties and agreements, full, voluntary transparency between States is detrimental to keeping weapons out of space. Joint regulation measures led both in accordance and cooperation with the UN to keep the development of space-related weaponry in check would buttress the already existing measures against its weaponization. If a new regulation is to be agreed upon, delegates must get nations with major space operations such as the U.S., PRC, and Russia, to create and agree upon guidelines for weapons relating to outer space.

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