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# Militarization and Weaponization of Outer Space in International Law\*

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## I . Introduction

In the early 20th century the modern space age began with the development of rocket and missile science. Germany was a major player in rocket science at the time of the Second World War. With tremendous government support, it led to the development of the V-2 rocket,<sup>1)</sup> which was recognized as the first space rocket. After World War II, a small group of German rocket scientists from the V-2 rocket project were brought to the United States to continue their research, which became the basis of the first space rocket program. The Soviet Union also had access to V-2 technology, launching the world's first satellite, Sputnik I, in 1957. The launch of Sputnik I marked the beginning of space exploration and with it the start of the debate surrounding the militarization of outer space.<sup>2)</sup> It also invoked a 'space-race' between the US and the Soviet Union after the realization that a surprise attack from outer space was indeed possible. This led to a proliferation in the usage of satellites by over 50 countries today.<sup>3)</sup> According to the Index of Objects Launched into Outer Space maintained by the United Nations Office for Outer Space Affairs (UNOOSA), there are 4,635 satellites currently orbiting the planet as of 2017.<sup>4)</sup>

In January 2007 China conducted an anti-satellite (ASAT) missile test. China

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1) See 'V-2 missile' in *Encyclopædia Britannica*; German in full Vergeltungswaffen-2 ("Vengeance Weapon 2"), also called V-2 rocket or A-4, German ballistic missile of World War II, the forerunner of modern space rockets and long-range missiles. Developed in Germany from 1936 through the efforts of scientists led by Wernher von Braun(1912-1977). After the war both the United States and the Soviet Union captured large numbers of V-2s and used them in research that led to the development of their missile and space exploration programs, available at <https://www.britannica.com/technology/V-2-missile>(last visited on May 30, 2018).

2) Johannes M. Wolf, 'Peaceful uses' of outer space has permitted its militarization-does it also mean weaponization ?, Disarmament Forum, one-2003, p. 1, available at <http://www.unidir.org/files/publications/pdfs/making-space-for-security-en-346.pdf>(last visited on May 30, 2018), pp. 5-6.

3) Livio Piloni Space: The New Frontier of Security Policy, CSS(Center for Security Studies) Analyses in Security Policy, No.171, April 2015, p. 1, available at <http://www.css.ethz.ch/content/dam/ethz/special-interest/gess/cis/center-for-securities-studies/pdfs/CSSAnalyse171-EN.pdf>(last visited on May 30, 2018).

4) See How many satellites are orbiting the Earth in 2017 ?, Pixalytics, posted on November 15, 2017, available at <https://www.pixalytics.com/sats-orbiting-earth-2017/>(last visited on May 30, 2018).

launched a missile that successfully destroyed one of its aging weather satellites.<sup>5)</sup> In February 2008 the United States also successfully destroyed one of its own satellites.<sup>6)</sup> These two tests sparked international concern that outer space was about to become a new battlefield, threatening the common view of outer space as a peaceful sanctuary. In fact, since 1982, the United Nations has been the main forum for discussing and negotiating international agreements that would curb an arms race in space.<sup>7)</sup>

This article focuses on the militarization and weaponization of outer space under the international law in relation to peaceful uses of outer space. As far as the militarization of outer space is concerned the exact meaning of ‘peaceful purpose’ in the Article IV of the Outer Space Treaty (*hereinafter* OST),<sup>8)</sup> formally “The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies”, which is a treaty that forms the basis of international space law will be analysed. After the analysis of the meaning of ‘peaceful purpose’ in the OST and other space law treaties, additionally a draft treaty and soft laws promulgating safeguards against the weaponization of outer space will be addressed as well.

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5) “China confirms anti-satellite missile test”. *The Guardian*. London. January 23, 2007, available at <https://www.theguardian.com/science/2007/jan/23/spaceexploration.china>(last visited on May 30, 2018).

6) US missile hits ‘toxic satellite’, *BBC News*, February 21, 2008, available at <http://news.bbc.co.uk/2/hi/americas/7254540.stm>(last visited on May 30, 2018).

7) Alessandro Shimabukuro, Peaceful Use of Outer Space: Preventing Weaponization, *ODUMUNC 2015 Issue Brief for the GA Fourth Committee: SPECPOL*, p. 2, available at <https://www.odu.edu/content/dam/odu/offices/mun/2013/specpol/issue-brief-2013-specpol-peaceful-use-of-outer-space-preventing-weaponization.pdf>(last visited on May 30, 2018).

8) G.A. Res. 2222(XXI), U.N. Doc. A/RES/21/2222 (Dec. 19, 1966). As of May, 2018, 105 countries are parties to the Treaty, while another 23 have signed but not yet ratified it.

## II. Militarization of Outer Space

In 1958, the *Ad Hoc* Committee on the Peaceful Uses of Outer Space was organized, which led to the establishment of the Committee on the Peaceful Uses of Outer Space (COPUOS) in 1959, the main United Nations organ concerned with outer space. Various resolutions passed by the General Assembly on outer space, such as Resolution 1348 (XIII) of 13 December 1959, Resolution 1472 (XIV) of 12 December 1959, Resolution 1721 (XVI) of 20 December 1961, and Resolution 1802 (XVII) of 19 December 1962, were all referred to the 'peaceful uses of outer space', as drafted by this Committee.<sup>9)</sup> In particular the 1963 "Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space" (so called 1963 Outer Space Legal Principles)<sup>10)</sup> set forth the nine basic components of international space law which were incorporated into the Articles in the OST. Principle 4 of the Declaration provides that "the activities of States in the exploration and use of outer space shall be carried on in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international co-operation and understanding". Although the word 'peaceful' was not included in that Declaration, it contained the meaning that the exploitation of the outer space is "peaceful" for its purposes.<sup>11)</sup> According to Professor Ivan A. Vlasic (1926-2011) the term "militarization," as applied to outer space, should not be confused with "weaponization." Though there are no authoritative international definitions of either term, the former refers to "the use of outer space by a significant number of military spacecraft" while the latter "refers to the placing in outer space for any length of time any

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9) Bin Cheng, *Studies in International Space Law*, Clarendon Press·Oxford, 1997, p. 514.

10) UN Resolution 1962(XVIII), 13 December 1963.

11) Han Taek Kim, A Study on the Peaceful Uses of Outer Space and International Law, 30 *The Korean Journal of Air & Space Law and Policy*, 2015 (in Korean), p. 289.

device designed to attack man-made targets in outer space and/or in the terrestrial environment.”<sup>12)</sup>

## 1. The Article IV of the OST

### (1) The Paragraph One of Article IV

The OST constantly uses the expression, ‘outer space, including the moon and celestial bodies’. In general, for the purpose of the Treaty, ‘outer space’ includes ‘celestial bodies’, and ‘celestial bodies’ include ‘the moon’.<sup>13)</sup> Thus there is a need to introduce the term “outer void space” among celestial bodies.<sup>14)</sup> In the OST, the only article that concerns the military use of the whole of outer space is Article IV.

Paragraph one of Article IV of the OST<sup>15)</sup> stipulates that the contracting parties shall not place into orbit around the earth nuclear weapons or any other kind of weapons of mass destruction and promise not to install such weapons on celestial bodies, or place such weapons in any other manner. The question about whether conventional weapons can be used in outer space is subject to debate, because Article IV of the OST refers only to nuclear weapons and weapons of mass destruction.

According to the UN Resolution in December 11, 1979, weapons of mass destruction should be defined to include atomic explosive weapons, radio-active material weapons, lethal chemical and biological weapons, and any weapons developed in the future which have characteristics comparable in destructive

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12) Ivan A. Vlasic, Space Law and the Military Applications of Space Technology, in *Perspectives on International Law* (N. Jasentuliyana ed., London; Boston: Kluwer Law International, 1995), p. 386.

13) Bin Cheng, *Studies in International Space Law*, *op. cit.*, p. 527.

14) Bin Cheng, Outer Void Space-the Reason for this Neologism in Space Law, *Australian International Law Journal*, International Law Association-Australian Branch, 1999, p. 1, available at <http://www.austlii.edu.au/au/journals/AUIntLawJl/1999/3.pdf>(last visited on May 30, 2018).

15) Actually Article IV of the OST does not consist of Article IV(1) and Article IV(2). It consists of two paragraphs. However some scholars explain it Article IV(1) and Article IV(2) instead of paragraph one of the Article IV and paragraph two of the Article IV.

effect to those of an atomic bomb or other weapons mentioned above.<sup>16)</sup>

There are some interpretations that ballistic missiles and rockets are not prohibited because those weapons are not mentioned in the OST.<sup>17)</sup> In other words, the ballistic rockets, the ICBM(Intercontinental Ballistic Missile)<sup>18)</sup> and FOBS(Fractional Orbital Bombardment System)<sup>19)</sup>, as well as all military space objects not carrying nuclear or other mass destruction weapons, are not included in the prohibitive system of the paragraph one of the Article IV of the OST.<sup>20)</sup>

## (2) The Paragraph Two of Article IV

According to paragraph two of Article IV of the OST, the moon and other celestial bodies shall be used only for ‘peaceful purpose’. Although the installation of military bases or facilities, weapons experiments or military exercises can not be conducted on celestial bodies, the use of military personnel, equipment or facilities for the purposes of science and peace is not prohibited. With respect to the Article IV, the US interprets ‘peaceful purpose’ as ‘non-aggressive’ while Russia (including the Soviet Union) regards it as ‘non-military’.<sup>21)</sup> Professor Bin Cheng asserts that ‘the outer void space’ (the void between the celestial bodies) as such can be used for any military activity that is compatible with general international law and the Charter of the United Nations, so long as no “nuclear weapons or any other kind of weapons of mass

16) A/Res.34/87 A, December 11, 1979.

17) E. R. C, van Bogaert, *Aspects of Space Law*, Kluwer Law and Taxation Publishers, 1986, p. 68; Han Taek Kim, A Study on the Meaning of Outer Space Treaty in International Law, 28 *The Korean Journal of Air & Space Law*, 2013 (in Korean), p. 243.

18) See ICBM in Dictionary.com ; any supersonic missile that has a range of at least 3500 nautical miles (6500 km) and follows a ballistic trajectory after a powered, guided launching, *available at* <http://www.dictionary.com/browse/intercontinental-ballistic-missile>(last visited on May 30, 2018).

19) See FOBS in Dictionary.com ; a missile or satellite with a nuclear warhead sent into a low orbit so that it can suddenly be directed at a target, *available at* <http://www.dictionary.com/browse/fractional-orbital-bombardment-system>(last visited on May 30, 2018).

20) Marko G. Markoff, Disarmament and “Peaceful Purpose” Provisions in the 1967 Outer Space Treaty, 4 *Journal of Space Law* (hereinafter *JSL*), 1976, p. 4.

21) See Jinyuan Su, The “peaceful purposes” principle in outer space and the Russia-China PPWT Proposal, 26 *Space Policy*, 2010, pp. 82-84.

destruction are stationed there, including being placed there in earth orbit. Thus the paragraph two of the Article IV which limits the use of ‘the moon and other celestial bodies’ to ‘exclusively’ ‘peaceful purposes’, does not apply to outer space in the narrow sense of the term, meaning the void between celestial bodies, the ‘outer void space’.<sup>22)</sup>

### ① Non-military Theory

According to ‘non-military’ theory, supported by Russia (including the Soviet Union), ‘peaceful’ is intended as ‘non-military’. The same term has been in Article I of the 1959 Antarctic Treaty<sup>23)</sup> in the context of complete demilitarization.<sup>24)</sup>

According to Professor Bin Cheng the word ‘peaceful’ in the OST, by all the rules of treaty interpretation, retains its ordinary and well-established meaning of ‘non-military’. To argue that it means ‘non-aggressive’ leads to illogical, unrealistic, and even absurd consequences.<sup>25)</sup> Because the applicable provision of the 1969 Vienna Convention on the Law of Treaties is Article 31(1),<sup>26)</sup> which provides that the terms of a treaty are to be interpreted in good faith and given their ‘ordinary meaning’, the ordinary meaning of ‘peaceful’ in the second paragraph of the Article IV of the OST is ‘non-military’.

ASAT (Anti-satellite)<sup>27)</sup>’s deployment is permissible as long as it is not used as a weapon of mass destruction.<sup>28)</sup> The US and the Soviet Union have relied

22) Bin Cheng, *Studies in International Space Law*, *op. cit.*, pp. 529-530.

23) Article I of the Antarctic Treaty

1. Antarctica shall be used for peaceful purposes only. There shall be prohibited, inter alia, any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military maneuvers, as well as the testing of any type of weapons.
2. The present treaty shall not prevent the use of military personnel or equipment for scientific research or for any other peaceful purposes.

24) Marko G. Markoff, *op. cit.*, p. 7.

25) Bin Cheng, *The Legal Status of Outer Space and relevant Issues: Delimitations and Definition of Peaceful Use*, 11 *JSL* (1983), pp. 103-105.

26) Article 31(1)

A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.

27) See ASAT in *Dictionary.com* ; (of a weapon or weapon system) designed to destroy an enemy’s orbiting satellite, *available at* <http://www.dictionary.com/browse/antisatellite> (last visited on May 30, 2018).

exclusively on Article IV of the OST to determine the legality of space weapons and to argue that activities of ASAT and “Space based ballistic missile defences” are lawful. Indeed, Russia(including the Soviet Union), has insisted on “non-militarization of outer space,” but in fact launched a lot of military satellites into outer space like the US.<sup>29)</sup> It is apparent that the existing body of international law, despite the policy pronouncements of reserving outer space *sensu lato* exclusively for peaceful uses and purposes, does not in fact prohibit the use of satellite applications for military purposes, regardless of the lawfulness of the underlying military activities making use of satellite applications.<sup>30)</sup>

## ② Non-aggressive Theory

The US asserts that all military uses are permitted and lawful as long as they remain non-aggressive in the activities of the outer space including the moon and other celestial bodies. When it comes to the ‘non-aggressive’ theory all military uses are lawful as long as they remain ‘non-aggressive’ as permitted under Article 2 (4) of the United Nations Charter, which basically prohibits ‘the threat or use of force’.<sup>31)</sup>

According to the 2001 Rumsfeld Commission Report, “The US and most other nations interpret ‘peaceful’ mean ‘non-aggressive’; this comports with customary international law allowing for routine military activities in outer space, as it does on high seas and international airspace”.<sup>32)</sup> However Professor Bin Cheng mentioned that it is unwarranted to conclude from the fact that the US has persistently interpreted the word “peaceful” in the paragraph two of the Article IV of the OST

28) Sylvia Maureen Williams, International Law and the Military Uses of Outer Space, 9 *International Relations*, May 1989, p. 414.

29) Ram Jakhu, Legal Issues Relating to the Global Public Interest in Outer Space, 32 *JSL*, 2006, p. 85.

30) Ricky J. Lee & Sarah L. Steele, Military Use of Satellite Communications, Remote Sensing, and Global Positioning Systems in the War on Terror, 79 *Journal of Air Law and Commerce*, 2014, p. 112.

31) Johannes M. Wolf, *op. cit.*, p. 8.

32) *Executive Summary, Report of the Commission to Access United States National Security Space Management and Organization* 17, pursuant to Pub.L. 106-165, Jan. 11, 2001; Ram Jakhu, “Legal Issues Relating to the Global Public Interest in Outer Space”, 32 *JSL*, 2006, p. 86.



as meaning “non-aggressive” and not “non-military,” and that there has been “no protest” from other States, that the United States interpretation has consequently been confirmed by subsequent practice in accordance with Article 31 (3) of the 1969 Vienna Convention on the Law of Treaties. The reason is simply that there has up to now not been any known occasion when the US tried to implement its interpretation in regard to the paragraph two of the Article IV of the OST, by carrying on “non-aggressive” *military* activities on the moon or other celestial bodies. Thus the result is that there has been no violation of the paragraph two of the Article IV of the OST and, therefore, no need for any other State to protest.<sup>33)</sup>

## 2. Article 3 of the 1979 Moon Treaty

It should be noted that under Article 1(1) of the 1979 Moon Treaty, formally “Agreement Governing the Activities of States on the Moon and Other Celestial Bodies”,<sup>34)</sup> reference to the moon in the Treaty applies also to ‘other celestial bodies within solar system<sup>35)</sup> other than the earth’. In this connection since the OST does not mention the solar system, it applies to the entire universe including the solar system and galaxy. As far as Article 3 of the Moon Treaty is concerned, it can be seen that, so far, no military uses of outer space are prohibited. Article 3 of the Moon Treaty, although it goes slightly further in the direction than does Article IV of the OST, has only been partially demilitarization. Thus, apart from

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33) Bin Cheng, Properly Speaking, Only Celestial Bodies Have Been Reserved for Use Exclusively for Peaceful(Non-Military) Purposes, but Not Outer Void Space in *International Law Across the Spectrum of Conflict: Essays in Honour of Professor L. C. Green On Occasion of His Eightieth Birthday* (ed. by Michael M. Schmitt), Naval War College Newport, Rhode Island, 2000, p. 108.

34) G.A. Res. 34/68, U.N. Doc. A/34/68 (Dec. 5, 1979).

35) According to Encyclopedia Britannica solar system means assemblage consisting of the Sun—an average star in the Milky Way Galaxy—and those bodies orbiting around it: 8 (formerly 9) planets(Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto) with about 170 known planetary satellites (moons); countless asteroids, some with their own satellites; comets and other icy bodies; and vast reaches of highly tenuous gas and dust known as the interplanetary medium. The Sun, Moon, and brightest planets were visible to the naked eyes of ancient astronomers, and their observations and calculations of the movements of these bodies gave rise to the science of astronomy, *available at* <https://www.britannica.com/science/solar-system>(last visited on May 30, 2018).

the prohibitions of placing weapons of mass destruction in orbit around the earth, any other military uses are permissible.<sup>36)</sup>

In introducing a prohibition in its Article 3(2) on the threat or use of force or of hostile act on the moon, or the use of the moon in order to commit any such acts or to engage in any such threats in relation to ‘the earth, the moon, spacecraft, the personnel of spacecraft of man-made space objects’, the Moon Treaty could be regarded as doing no more than to re-iterate the basic principle underlying Article 2(4) of the United Nations Charter, whilst at the same time the repetition of ‘peaceful purposes’ in its Article 3(1).<sup>37)</sup> The Moon Treaty, though in force, has so far been accepted by only a few States none of which is a significant space power (such as the US, Russia and China).<sup>38)</sup> It does not appear that it is likely to play an important role in the regulation of the military of use of outer space.

### III. Weaponization of Outer Space

#### 1. PPWT

The weaponization of outer space involves, in addition to placing weapons in outer space or celestial bodies, creating weapons that will simply travel through earth in order to pass through outer space or to attack or destroy targets in space. It means that it is used with reference to the deployment of weapons of offensive nature in space or on the ground with their intended target located in space.<sup>39)</sup>

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36) Sylvia Maureen Williams, *op. cit.*, p. 412; Han Taek Kim, A Study on the Meaning and Future of the Moon Treaty, 21 *The Korean Journal of Air & Space Law*, 2006 (in Korean), pp. 219-220.

37) Bin Cheng, *Studies in International Space Law, op. cit.*, p. 533.

38) As of January 2018, 18 countries are parties to the Treaty, while another 4 have signed but not yet ratified it.

39) Frans von der Dunk with Tronchetti, Fabio (ed.), *Handbook of Space Law*, Edward Elgar Publishing,

Examples include the placing of orbital or suborbital satellites with the intention of attacking enemy satellites, using ground-based direct ascent missiles to attack space assets, jamming signals sent from enemy satellites, using lasers to incapacitate enemy satellites, plasma attacks, orbital ballistic missiles, and satellite attacks on Earth targets. These can be further classified into direct-energy and kinetic-energy weapons.<sup>40)</sup>

The concept for space weaponization came up in the early 1980s through the “Strategic Defense Initiative” (SDI) also known as the “Star Wars” program of the US. The idea was to put a large number of satellites into orbit that would detect the launch of enemy missiles and then shoot them down. This space-based anti-missile defense was conceived not as a substitute for ground-based defense but as part of the concept of multilayered defense which also included sea-based interceptors that are carried onboard ships and the ground-based Terminal High Altitude Area Defense (THAAD), the system designed for the engagement of short and medium range missiles. Essentially, the idea was to form a protective shield against possible missile attacks carrying nuclear warheads.<sup>41)</sup>

On February 12, 2008 China and Russia jointly submitted “Draft Treaty on the Prevention of the Placement of Weapon in Outer Space and of the Threat or Use of Force against Outer Space Objects (2008 PPWT)”<sup>42)</sup> to Conference on Disarmament (CD) which is the main multilateral disarmament negotiating forum of the international community, commissioned by the UN General Assembly’s Special Session. Recently the governments of Russia and China submitted a new version of their draft Treaty on the Prevention of the Placement of Weapons in

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2015, pp. 333-334.

40) Harsh Vasani, How China Is Weaponizing Outer Space, *The Diplomat*, January 19, 2017, available at <https://thediplomat.com/2017/01/how-china-is-weaponizing-outer-space/> (last visited on May 30, 2018).

41) PN Tripathi, Weaponisation and Militarisation of Space, *CLAWS Journal*, Winter 2013, pp. 192-193, available at [http://www.claws.in/images/journals\\_doc/464050849\\_PNTripathi.pdf](http://www.claws.in/images/journals_doc/464050849_PNTripathi.pdf) (last visited on May 30, 2018).

42) See 2008 Draft Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects, available at <http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2008/documents/Draft%20PPWT.pdf> (last visited on May 30, 2018).

Outer Space, the Threat or Use of Force against Outer Space Objects(2014 PPWT) on June 10, 2014.<sup>43)</sup> The most notable changes are that the definition of “outer space” has been removed from Article I,<sup>44)</sup> while other definitions like “use of force” or “weapon in space” have been slightly amended. Slight modifications to Article IV,<sup>45)</sup> the right to self-defense, have also been made.

These proposals attempt to define and prohibit the proliferation of weapons in outer space and provided definitions of prohibited weapons. The PPWT defines a weapon in outer space as device placed in outer space, based on any physical principle, which has been specially produced or converted to destroy, damage or disrupt the normal functioning of objects in outer space, on Earth or Earth’s atmosphere, or to eliminate a pollution or components of biosphere which are important to human existence or inflict damage of them.<sup>46)</sup>

However the US asserts that since there is not yet an arms race in outer space, there is no problem for arms control to solve.<sup>47)</sup> Despite the revisions, the US concluded that the new draft, “like the 2008 version, remains fundamentally flawed” and “provides no basis for the US to support establishing an ad hoc committee to negotiate any such Treaty at the CD or in any other forum”, in

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43) See 2014 Draft Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects, *available at* <http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2014/documents/PPWT2014.pdf>(last visited on May 30, 2018).

44) An attempt to formally define the term can be found in the first PPWT. Article 1(a) defined the term ‘outer space’ as “the space above the Earth in excess of 100km above sea level”. However, on June 10, 2014 a new version of “Draft Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects” was submitted to The Conference on Disarmament(CD) by the governments of Russia and China. The most notable change in the revised new draft is that the definition of “outer space” has been removed from Article 1.

45) Article IV

This Treaty shall by no means affect the States Parties’ inherent right to individual or collective self-defense, as recognized by Article 51 of the UN Charter.

46) David C. DeFrieze, Defining and Regulating the Weaponization of Space, 74 *Joint Force Quarterly*, July 01, 2014, p. 111, *available at* [http://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-74/jfq-74\\_110-115\\_DeFrieze.pdf](http://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-74/jfq-74_110-115_DeFrieze.pdf)(last visited on May 30, 2018).

47) Statement to the Conference on Disarmament by Ambassador Christina Rocca, US Permanent Representative, in Sally J. Cummins (ed.), Office of the Legal Adviser, United States Department of State, Digest of United States Practice in International Law 2007, Oxford University Press, 2008. p. 668 *recited from* Jinyuan Su, The “peaceful purposes” principle in outer space and the Russia-China PPWT Proposal, *op. cit.*, p. 85.

its analysis of the 2014 PPWT transmitted to the CD on 2 September 2014.<sup>48)</sup> The US strongly opposes any binding law and prefers to remain with soft law, because it heavily relies on space technologies in a way that is incomparable to any other nation.<sup>49)</sup>

## 2. The ICoC

There are some proponents of a hard law approach that a legally binding instrument should be adopted to regulate the military use of outer space, the ultimate creation of an integrated and binding legal instrument in all aspects about the use of outer space. However, even as a temporary measure, it is desirable that the soft law guidelines should be developed for the *non liquet*, a situation where there is no applicable law.

As far as soft law relating to the weaponization of outer space is concerned there is the “Draft International Code of Conduct for Outer Space Activities” (ICoC). The draft code initially stemmed from a document proposed by the European Union (EU) under the French Presidency. EU Member States authored the first drafts in 2007 and 2008, agreed to it within EU structures in June 2008, and officially released their EU’s “Draft Code of Conduct for Outer Space Activities” to the international community in December 2008.

This was one of the first exercises of the new powers to engage in foreign and security policy making given to the EU under the 2009 Lisbon Treaty (Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community).<sup>50)</sup> Key features of the ICoC include the following:

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48) Analysis of the 2014 Russian-Chinese Draft “Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force Against Outer Space Objects” (PPWT) (CD/1985), CD/1998 *recited from* Jinyuan Su, Space Arms Control: Lex Lata and Currently Active Proposals, 7 *Asian Journal of International Law*, 2017, p. 72.

49) Sikorska Paulina Ewa, For the Sake of Others: the Necessity to Regulate the Militarization and Weaponization of Outer Space, *European science review*, No 5-6 / 2015, p. 181.

50) Chris Johnson, Draft International Code of Conduct for Outer Space Activities Fact Sheet, Updated February, *available at* [https://swfound.org/media/166384/swf\\_draft\\_international\\_code\\_of\\_conduct\\_for](https://swfound.org/media/166384/swf_draft_international_code_of_conduct_for)

minimizing the possibility of accidents, collisions or other harmful interference; refraining from intentional destruction of space objects to mitigate the creation of space debris; notifying the risks of collisions including the operation plan, change of orbit, or re-entry that may result in dangerous proximity to the space object; and allowing to request consultations when there is possibility of violation of the Code by another state. In addition, the Code of Conduct is intended to cover both civil and military space activities.<sup>51)</sup> Although the ICoC does not deal with military activities in outer space explicitly, its constraints on them are potentially profound, as the code “addresses outer space activities involving all space objects launched into Earth orbit or beyond”. Despite the non-binding nature of the code, states are prudent in consultations and contemplation as to whether or not to subscribe to it. Non-compliance with such instruments does not entail sanctions, but the political cost can be very high in the world today, in which states have become unprecedentedly interdependent.<sup>52)</sup>

### 3. UN Resolution 69/32

In 2014, Russia submitted a draft resolution on “No first placement of weapons in outer space” to the First Committee of the 69th Session of the UN General Assembly.<sup>53)</sup> On December 2, 2014 the text was approved by the United Nations General Assembly. It was adopted with a vote of 126 in favor, 4 against and 46 abstentions, as Resolution 69/32 entitled “No first placement of weapons in space”. In that resolution the international community recognized that the existing legal regime itself does not guarantee the prevention of an arms race in space. However, the resolution reiterates the premise “that the prevention of an

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\_outer\_space\_activities\_fact\_sheet\_february\_2014.pdf(last visited on May 30, 2018).

51) See The draft of the International Code of Conduct for Outer Space Activities, *available at* [http://www.mofa.go.jp/policy/outer\\_space/pdfs/coc1304.pdf](http://www.mofa.go.jp/policy/outer_space/pdfs/coc1304.pdf)(last visited on May 30, 2018).

52) Jinyuan Su, Space Arms Control: Lex Lata and Currently Active Proposals, *op. cit.*, p. 75.

53) Draft Resolution on “No First Placement of Weapons in Outer Space”, UN Doc. A/C.1/69/L.14 (2014).

arms race in outer space would avert a grave danger to international peace and security” and the importance of Article III and IV of the OST. Article III obliges State Parties to the Treaty to carry on activities in the exploration and use of outer space, including the moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international co-operation and understanding. This implies that the international community gives the same importance to the very broad wording of Article III as it does to the comparatively precise prohibition of placing weapons of mass destruction in space, as contained in Article IV.<sup>54)</sup>

## IV. Conclusion

The current international binding law system does not provide a safeguards against the militarization and weaponization of outer space. The term “peaceful uses of outer space” in the OST of 1967 appears in official government statements and multilateral outer space related treaties, however, actual state practice leads to the conclusion that this term is still without an authoritative definition. The ambiguous ban on weapons in Article IV of the OST allows countries to take advantage of loopholes in the law on weapons placement other than nuclear.

Although it does not contain any specific arms control measures, reference should be made to “the Convention on Registration of Objects launched in Outer Space” (so called 1975 Registration Convention).<sup>55)</sup> If applied properly, this

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54) Sixty-ninth session, Agenda item 94 (b), Resolution adopted by the General Assembly on 2 December 2014.

55) G.A. Res. 3235(XXIX), U.N. Doc. A/RES/3235(XXIX) (Nov. 12, 1974), *available at* [http://www.unoosa.org/pdf/gares/ARES\\_29\\_3235E.pdf](http://www.unoosa.org/pdf/gares/ARES_29_3235E.pdf) (last visited on May 30, 2018). As of December 2017, 64 countries are parties to the Treaty, while another 4 have signed but not yet ratified it.

Convention could play some confidence-building role. Article IV thereof requires States launching space objects to provide the Secretary-General of the UN with information on several questions, including the general function of the space object.<sup>56)</sup>

Meanwhile the “Draft Treaty on the Prevention of the Placement of Weapon in Outer Space and of the Threat or Use of Force against Outer Space Objects(PPWT)” to Conference on Disarmament (CD) commissioned by the UN General Assembly’s Special Session jointly submitted by China and Russia in 2008 and its revised version in 2014, attempting to define and prohibit the proliferation of weapons in outer space and provided definitions of prohibited weapons are opposed by the US on the grounds that currently there is no arms race in outer space.

Actually outer space is already “militarized”, meaning that it is used for military means in the outer void space, not in the moon and other celestial bodies, but it is not yet “weaponized.” That is, there are no space weapons in which satellites can destroy other satellites, or attacks to the surface of the Earth cannot be launched from space, but the ability to destroy satellites from the surface of the Earth has been tested and proven.<sup>57)</sup>

Some supporters of hard law claim to adopt legally binding instruments to regulate the military use of space, the ultimate creation of an integrated and binding legal instrument in all aspects about the use of outer space. However it is desirable that as a temporary measure the soft law guidelines should be developed for the *non liquet*, a situation where there is no applicable law. Soft law instruments can be used to generate support for the promulgation of treaties, and to help generate customary international law norms.<sup>58)</sup> The Declaration of Legal Principles Governing the Activities of States in the Exploration and Use

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56) Rüdiger Wolfrum, ; Rüdiger Wolfrum, The Problems of limitation and Prohibition of Military Use of Outer Space, 36 *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht*, 1976, p. 790.

57) Alessandro Shimabukuro, *op. cit.*, p. 3.

58) Jeffrey L. Dunoff, Steven R. Ratner, and David Wippman, *International Law: Norms, Actors, Process*, 2nd ed., New York: Aspen, 2006, p. 95.



of Outer Space<sup>59)</sup> and Principles Relevant to the Use of Nuclear Power Sources in Outer Space are good examples.<sup>60)</sup> While substantial portions of the former were subsequently codified in the Outer Space Treaty, the latter, which are written in somewhat mandatory language and have been consistently complied with by states, have arguably become part of customary international law.<sup>61)</sup> In this connection UNGA Resolution 3232(XXIX) of November 12, 1974 is noteworthy. In the preamble of the resolution the General Assembly reaffirmed that the development of international law may be reflected *inter alia*, by declarations and resolutions of the General Assembly which may to that extent be taken into consideration by the International Court of Justice.<sup>62)</sup>

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59) Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, GA Res. 1962(XVIII) (13 December 1963).

60) Principles Relevant to the Use of Nuclear Power Sources in Outer Space, 14 December 1992, GA Res. 57/68.

61) Jinyuan Su, Space Arms Control: Lex Lata and Currently Active Proposals, *op. cit.*, pp. 85-86.

62) Preamble, UNGA Res. 3232(XXIX), November 12, 1974.

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## 초 록

현재의 국제법제도는 우주의 군사화와 무기화에 대한 안전장치를 제공하지 못한다. 1967년 우주조약 제4조에 명시된 “우주의 평화적 이용”이라는 용어는 정부의 공식 성명서나 다자간 우주관련조약에 표현되어 있지만, 국가 관행을 검토하면 이 용어는 여전히 권위 있는 정의를 내리지 못하고 있다. 이러한 우주조약 제4조의 무기에 대한 모호한 금지는 국가들로 하여금 우주와 천체에 핵무기나 대량파괴무기 이외에 다른 기타 무기의 배치를 허용하고 있다.

1967년 우주조약에 명시된 ‘우주의 평화적 이용’의 문구는 1979년 달협정에서도 발견되므로 이를 함께 분석해야 한다. 또한 특정 무기통제조치가 포함되어 있지는 않지만 1975년 등록협약도 참고해야 하는데, 등록협약은 적절하게 적용되면 신뢰구축의 역할을 상당히 수행할 수 있다. 그 이유는 동 협약 제4조가 우주물체의 일반적인 기능을 포함한 우주발사물체에 관한 정보를 유엔사무총장에게 제공할 것을 요구하고 있기 때문이다.

한편 2008년 유엔총회의 특별회기 때 군비축소팀에 중국과 러시아가 공동으로 제출하고 나중에 2014년에 개정된 “우주에서의 무기배치와 우주물체에 대한 무력의 위협이나 사용금지조약안(PPWT)”은 우주에서 사용되는 무기에 대한 정의를 제공하고 우주무기확산을 금지하려는 시도를 하고 있지만, 미국이 반대하고 있다. 그 이유는 우주 공간에는 현재 무기경쟁이 없다는 이유에서인데, 실제로 우주에서 천체는 아니고 우주공간(outer void space)은 이미 “군사화”되어 군사적 수단으로 사용되고 있으나 아직 “무기화”는 되지 못하고 있다. 즉, 인공위성이 다른 위성을 파괴하거나 우주에서 발사되어 지구표면을 공격할 수 있는 우주무기는 아직 없고, 지구표면에서 발사된 인공위성을 파괴할 수 있는 능력만 계속 시도되고 입증되고 있을 뿐이다.

우주의 군사적 이용을 규제하기 위해 모든 면에서 통합적이고 구속력 있는 법적 도구의 궁극적인 창조를 목적으로 한 구속력을 가진 법이 채택되어야 한다는 경성법(hard law) 접근법을 지지하는 사람들도 있지만, 현재 그것이 불가능하다면 임시조치로 연성법(soft)인 가이드라인이 개발되어야 할 것이다. 이는 적용시킬 법이 없어서 재판불능(non liquiet) 상태에 이르는 사태에 대비하기 위

하여 매우 유용하게 이용될 수 있다.

사실 연성법은 조약의 포고에 관하여 지지를 표출하며 국제관습법을 창출하는 데 사용되기도 한다. 1963년 “우주의 탐사와 사용에 있어서 국가의 활동을 규제하는 법원칙 선언”과 1992년 “핵원료사용원칙”을 그 예로 들 수 있는데, 전자의 상당 부분은 이후에 제정된 1967년 우주조약에 성문화되었고, 후자는 비록 의무적인 용어로 쓰여졌지만 경성법 못지않게 지속적으로 국가에 의해 준수될 국제관습법의 일부가 되어 가고 있다. 한편 이와 관련하여 1974년 11월 12일 유엔총회에서 채택된 결의에서 ‘선언’(declaration)과 ‘결의’(resolution)는 국제법의 발전에 반영될 수 있는 방법으로서 국제사법재판소(ICJ)에 의해서 고려되어야 한다고 권고한 점에 주목해야 할 것이다.

**주제어** : 우주조약, 연성법, 우주의 평화적 이용, 우주의 군사화, 우주의 무기화, PPWT, HCoC, ICoC.

## Abstract

### Militarization and Weaponization of Outer Space in International Law

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The current international legal system does not provide a safeguard against the militarization and the weaponization of outer space. Although the term “peaceful use of outer space” in the 1967 Outer Space Treaty(OST) appears in official government statements or in multilateral space treaties, it is still without an authoritative definition in reviewing national practices. The ambiguous ban on weapons in Article IV of the OST allows countries to loophole on the deployment of other weapons other than nuclear weapons.

Meanwhile “Draft Treaty on the Prevention of the Placement of Weapon in Outer Space and of the Threat or Use of Force against Outer Space Objects(PPWT)” to Conference on Disarmament (CD) commissioned by the UN General Assembly’s Special Session jointly submitted by China and Russia in 2008 and later revised in 2014, attempting to define and prohibit the proliferation of weapons in outer space and provided definitions of prohibited weapons, are opposed by the US on the grounds that currently there is no arms race in outer space.

Some experts support a hard law approach in which binding laws aimed at ultimately creating integrated and binding legal instruments in all aspects of the use of outer space should be adopted to regulate the military use of space. However as a temporary measure the soft law guidelines should be developed for the *non liquet*, a situation where there is no applicable law. The soft law could be used to create support for the declaration of the treaties and to create international customary law. For example, the 1963 Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer

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Space that regulates the activities of the state in the exploration and use of the universe, and the 1992 Principles Relevant to the Use of Nuclear Power Sources in Outer Space will be illustrated. While substantial portions of the former were codified later in the 1967 OST, the latter which, although written in somewhat mandatory terms, have been consistently complied with by states, have arguably become part of customary international law.

On November 12, 1974, the General Assembly reaffirmed that the development of international law may be reflected *inter alia*, by declarations and resolutions of the General Assembly which may to that extent be taken into consideration by the International Court of Justice.

**Key Words** : Outer Space Treaty, Soft Law, Outer Space for Peaceful Purpose, Militarization of Outer Space, Weaponization of Outer Space, PPWT, HCOC, ICOC.