

## PREVENTION OF THE OUTER SPACE WEAPONIZATION

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### Abstract.

The main task of this paper is to analyze and to discuss the present binding regime of the outer space deweaponization and particular measures on consolidation and strengthening of this regime. In particular the following problems are discussed in this paper:

1. The international terrorism as a main present-day obstacle on the way to the universal ban of the space-based ABM systems.
2. The urgent need to strength the regime of inviolability or immunity of satellites due to the international terrorism threat. This may be obtained by turning of the appropriate bilateral agreements between the Russian Federation and the USA into multilateral Treaties. Such "immunity" would cover all operating space objects, irrespective of their military or civil designation.

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This approach is quite justified taking into consideration that military sattelites enhanced international peace and security and had broad advantages as a counter-terrorism means.

3. Strengthening of confidence among the states of antiterrorist coalition when carrying out peaceful space activity by raising of the degree of transparency on the pre-launch stage of space activity, including satellite inspection before ignition.

4 Other measures of using space objects for international security of the antiterrorist coalition.

### 1.The Outer Space Deweaponization Regime in Force

The binding rules of international space law ban to place only some kinds of weapons in orbit around the earth, what from the point of view of international law may be qualified as establishing a partial deweaponization regime in outer space. After the universal

prohibition of the deploying space based Anti-Ballistic Missile (ABM) Systems or their components development, and of anti-satellite (ASAT) weapons it will be possible to speak about establishing of an international legal regime of complete dewateronization in outer space eliminating any kinds of weapon in a peaceful time from outer space. The process of outer space partial dewateronization originated from the date of signing on August 5, 1963 the Moscow Treaty banning nuclear weapons tests in atmosphere, in outer space and under water (Partial Test Ban Treaty-PTBT)<sup>1</sup> The significance of the 1963 Partial Test Ban Treaty is, that it has forbidden any nuclear weapons test explosions in outer space. Such prohibition encouraged the non-proliferation of nuclear arms race in outer space and eliminated the hazard for normal operation of satellites that are very sensitive to an electromagnetic impulse resulting from nuclear explosions in space. The 1963 Moscow Treaty has prevented the problem of contamination of outer space with radiation, and also the use of space for conducting experimental tests of X-ray lasers with nuclear pumping.

Unfortunately, this treaty does not establish international monitoring system. The States Parties to the Moscow Partial Test-Ban Treaty have the right to carry out control of its observance only with the help of their national technical means (NTM). The 1963 PTB Treaty, by protecting outer space from any nuclear explosions, did not contain any prohibition of placing of nuclear weapon in outer space. This gap was filled in by the conclusion of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty-OST) in 1967.<sup>2</sup>

Particular importance has the article 4 of the Outer Space Treaty which prohibits "to place in orbit around of the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapon on celestial bodies, or station such weapons in outer space in any other manner" The term "weapons of mass destruction" includes such kinds of weapons, as nuclear, chemical and biological payloads, and other payloads, comparable with them in terms of destructive striking power, including those, which can be created afterwards. The prohibition

of placing in space of the indicated kinds of weapon concerns also the objects with nuclear weapons on board carrying out fractional orbital flight.

Thus, the 1963 PTB Treaty clearly and unambiguously prohibiting nuclear explosions in outer space, along with the 1967 Outer Space Treaty banning to place nuclear and other kinds of a weapons of mass destruction into outer space, may be regarded as efficient contribution to the prevention of an arms race in outer space. The Convention on the Prohibition of Military or any other Hostile Use of

Environmental Modification Technique (Environmental Modification Convention ) of 1977<sup>3</sup> plays an important role in the establishment of rules to curb the use of new means of warfare. The Convention defines both the term environmental modification technique and the boundaries within which the Convention is applicable, including the outer space environment. The ENMOD Convention prevents the threat of the so called 'geophysical war' and considered some of possible modifications of the environment through the use of special satellite. The Convention would, to a certain extent, protect

satellites against interference resulting from disturbance of the environment through which they travel. Convention provides for consultations between States Parties to the Convention, or through the machinery of the United Nations. In particular, the consultation through the convening of a Consultative Committee of Experts is provided as appropriate means of verifying States obligations. Unfortunately, this Convention does not become universal one. A number of limitations of military use of outer space (as in quantitative, and in a qualitative sense) is contained in bilateral agreements between Russia, as a legal successor of the former USSR, and the USA.

Till now, the idea was to ban separate kinds of weapon in outer space. However, in the space agreements in force referring to moon and other celestial bodies the most far-reaching weapons prohibitions are established. Pursuant to the 1967 Outer Space Treaty the Moon and other celestial bodies should be used 'exclusively for peaceful purposes'. The approximate list of kinds of activity forbidden on the Moon and on other celestial bodies, includes the ban to install any objects carrying

nuclear weapons or any other kinds of weapons of mass destruction.

The list of possible forbidden kinds of weapons on the moon and other celestial bodies was supplemented and extended by the article 3 of the 1979 Agreement Governing the Activities on the Moon and Other Celestial Bodies<sup>4</sup> where, along with already listed kinds of forbidden activity, there are mentioned: not placing in orbit or other trajectory to or around the moon objects carrying nuclear weapons or any other kinds of weapons of mass destruction, or placing or using such weapons on or in the moon.

It is necessary to mention, that the provisions of the Moon Agreement are applied also to other celestial bodies of the solar System, besides the Earth. In the legal terms the regime established for the moon and other celestial bodies, may be qualified as a complete deweaponization. As to the near space only the regime of partial deweaponisation is established. The Law of the Russian Federation on Space Activity not admits 'the space activity, forbidden by the international treaties to which the Russian Federation is a party.'

## **2.The Problem of Prevention of an Arms Race in Outer Space.**

The problem of prevention of an arms race in outer space has been debated on the United Nations sessions of the General Assembly for decades. Since 1981 a number of the United Nations General Assembly resolutions made a recommendation to the Committee on Disarmament (1979-1983) and since 1984 to the Conference on Disarmament (CD) to negotiate the conclusion of the multilateral agreement or agreements on the prevention of an arms race in outer space as a matter of priority. In 1982 a new subject, Prevention of an Arms Race in Outer Space (PAROS), became an item of the Committee of Disarmament agenda. From the moment of conclusion of the 1967 Outer Space Treaty the international community did not manage to reach the uniform understanding on the further measures to be undertaken on the ways of Prevention of an Arms Race in Outer Space. The support for these General Assembly resolutions has led to the conclusion of agreement on establishment of the Ad Hoc PAROS Committee in 1985 within the framework of the Conference on Disarmament. The Ad Hoc Committee has never become a permanent subsidiary body of the

CD. Therefore, since 1984 the General Assembly resolutions request the CD to establish or reestablish the Ad Hoc Committee "...with a view to undertaking negotiations for the conclusion of an agreement, as appropriate, to prevent an arms race in all its aspects in outer space". Over the past period the complex of ideas and proposals of the States on this problem was put forward. First of all it's necessary to mention the proposals on prevention of an arms race in outer space. This problem has been debated on the sessions of United Nations General Assembly and CD by decades. In 1979 Italy has submitted 'Additional Protocol to the 1967 Outer Space Treaty' to the Committee on Disarmament with the view to preventing an Arms Race in Outer Space<sup>5</sup>. Two proposals were put forward by the former Soviet Union to the United Nations General Assembly in 1981 and 1983. The first proposal was the Draft Treaty on the Prohibition of the Stationing of Weapons of Any Kind in Outer Space.<sup>6</sup> The second proposal was the Text of the Draft Treaty on the Prohibition of the Use of Force in Outer Space and from Space Against the Earth.<sup>7</sup> Among concrete aspects of the prevention of an arms race, the

proposals on complete prohibition of the Anti-Satellite weapons (ASAT) were put forward on the UN General Assembly Sessions and the CD Meetings. It is necessary to take into account, that the express prohibition on carrying out of the ASAT tests is not provided by the agreements in force. The unilateral moratorium of the former Soviet Union on the development of the ASAT weapons has been declared in 1983. The Russia Federation as a successor of the former USSR continues to observe this moratorium. Statement submitted by the delegation of India to the CD in 1987 has proposed the conclusion of a multilateral agreement which would transform the de facto moratorium observed by the USSR and the US on the development of ASAT weapons into a universally binding commitment covering both the dismantling of existing systems and the production of new ones.<sup>8</sup> The idea was supported by a number of developing countries and China. In 1989 Sweden made a proposal on the prohibition of the ASAT systems. The delegations of the Netherlands, Sri-Lanka, Great Britain and Pakistan also expressed the opinion in favor of an inhibitory

action or limitation of the ASAT systems.

Attempting to put the problem out of deadlock, many States acted with idea of adoption of partial measures by ensuring "immunity" of artificial satellites of the Earth. Among them were the Netherlands, Canada, Australia, Argentina, Poland, Hungary, Bulgaria, Germany, France, Great Britain, Japan, Indonesia, Pakistan, Sri-Lanka etc. The problem of inviolability of satellites, or their "immunity" has remained at the level of discussion, and nobody addressed it in the 90s. Practically speaking, the SALT-1 and SALT-2 Treaties are believed to provide for the immunity of satellites performing verification functions on an arms limitation and desarmament. Other satellites that enjoy immunity are those that perform communication functions directly sanctioned by the Nuclear Accident Agreement of 1971 and the subsequent Agreement on the Prevention of Nuclear War of 1973, as well as the "Hot Line" Treaties. All mentioned Agreements are of bilateral character (between the Russia and the USA), and in this connection the problem on the right of other countries to similar "inviolability" repeatedly arose. Hot discussions took place on

the CD sessions concerning the right of the States to self-defense in outer space and on legal protection of satellites. All this has not allowed to achieve a common consensus on such a complex issue as the satellite "immunity". The discussions in the CD sessions demonstrate that with reference to space activity and taking into account the need to consolidate the efforts against international terrorism, more positive result can be achieved in the field of the confidence-building measures (CBMs). The CBMs may be subdivided into three main sets of measures whose aim is to establish confidence among States concerning their space activities:

- 1) Measures intended to obtain greater transparency and predictability in prior notification of a space object launch, including prelaunch inspection procedures of satellites.

- 2) Measures within the framework of the "traffic rules", sometimes referred to as the Rules of Behavior would be used for the establishment of measures to increase the safety of space objects and predictability of space activity, including notification on change of a satellite orbit, rules concerning space debris and space maneuvers.

3) The Space Code of Conduct regarded as a mechanism to reduce misinterpretation of space activity and inadvertent collision with other functioning space object. The elaboration of this Space Code of Conduct would constitute a concrete step towards the development of space order, and is an important "institutional" measure at the same time.

Lately, a number of countries attempted to attract attention of the CD sessions participants to the necessity of taking measures on raising transparency and predictability in space activity and, in particular, on the problems of verification and control.<sup>9</sup> In 1989 the French Government came back to its 1978 proposal for the establishment of an International Space Monitoring Agency (ISMA) by offering, in addition, the creation of an International Trajectory Center (UNITRACE)<sup>10</sup> and Satellite Image Processing Agency (SIPA)<sup>11</sup> In 1993 a similar proposal was made with regard to the Center of Notification about Start of Space Objects and Ballistic Missiles (CNSSOBM). In 1987 the USSR put forward the proposal on creation of an International Space Inspectorate (ISI)<sup>12</sup> to verify the non-deployment of weapons of any

kind in outer space followed by the proposal of creation the International Space Monitoring Agency (ISMA)<sup>13</sup>

In 1987 Canada proposed "the PAXSAT Concept"<sup>14</sup> as a verification measure which provided for the use of space-based remote technology for verification of non-deployment of the ASAT weapons and compliance with Treaty. It also provided for the space-to-ground observation and first of all in Europe, regional verification of conventional forces and weaponry. It is necessary to emphasize that the proposals of France, USSR and Canada mutually supplemented one another, however, within the framework of the CD nothing was made on elaboration of the unified draft. During last years China and Russia have taken the lead in calling for the negotiation of a new multilateral treaty prohibiting the deployment of weapons in space and restricting its use for peaceful purposes. China, France and Russia have called for the negotiation of a new multilateral treaty prohibiting the deployment of weapons in space and restricting its use for peaceful purposes. These calls have been supported by other states, including Canada and Sri Lanka. In

the Conference on Disarmament, China proposed in 1999 the re-establishment of an ad hoc negotiating committee under item three of the CD agenda, Prevention of an arms race in outer space (PAROS). This proposal has been backed in principle by Russia. In 2001 China intensified its diplomatic efforts to open substantive negotiations on space weapons. In June 2001 the Chinese delegation introduced a proposed draft agreement. Under this proposal, states would agree not to test, deploy or use in outer space any weapons, weapon systems or their components. Not to test, deploy or use on land, in sea or atmosphere any weapons, weapon systems or their components that can be used for war-fighting in outer space. Not to use any objects launched into orbit to directly participate in combatant activities. It is necessary to mention the Russian proposals made in 2000 and 2001 to create an European ABM non-strategic system. On the opinion of the American expert J. Pike the USA, for its part, has shown little interest in agreements that would constrain its military activities in space, where it enjoys unrivalled superiority.<sup>15</sup> The author of this paper believes that the CD sessions

participants have a real possibility of successful advancing of elaboration of the multilateral agreement or agreements on the prevention of an arms race in outer space.

### **3. The Problem of Outer Space Neutralization**

With the complete and partial denuclearization of outer space there is tightly connected the problem of neutralization.

The outer space neutralization means the establishment of an international legal regime in outer space which would eliminate carrying out of military operations, defeating of enemy objects situated in outer space, on the ground, in the air and in water by means of a space-based weapon, as well as defeating of space objects by means of ground, sea and air-based weapons. The outer space neutralization would eliminate the transformation of outer space into the theater of warfare and platform for an armed attack against enemy states. From the point of view of international law it would mean establishment of the regime of complete neutralization in outer space. The measures of partial neutralization are possible also. It is useful to remember that the 1979 Moon Agreement contains

provisions prohibiting any threat or use of force or any other hostile act or threat of hostile act on the moon. It is likewise prohibited to use the moon in order to commit any such act or to engage in any such threat in relation to the earth, the moon, spacecraft, personnel of spacecraft or man-made space objects. In the absence of the complete outer space neutralization regime the flight of the ballistic missiles designed for military application in space are not be considered forbidden. The advancement of the neutralization regime into outer space would be based on the jus cogens principle of contemporary international law proclaiming non-use of force or threats of force. In space as well as in any other province of mankind activity, the States should be guided by the fundamental principles of international law fixed in the Charter of the United Nations, including the principle which obliges all UN Members to refrain from the threat or use of force in their international relations (p.4 art.2 of the UN Charter).

Thus, according to the general norms of the international law, the States are obliged to abstain from any hostile operations when carrying out space activity, to settle their international conflicts and

disputes by peaceful means. In particular, it means non-acceptance of any violent interference with the rightful activity of an automatic or manned space object of another country by demolishing or damaging such object, its capturing or displacing from orbit. It is necessary to take into account that the 1967 Outer Space Treaty reconfirmed the applicability of the United Nations General Assembly resolution 110(II) to outer space passed in November 3 1947, which condemned propaganda designed or is likely to provoke or encourage any threat to the peace, breach of the peace or an act of aggression. The former USSR was inspired by idea of implementing the above mentioned provisions in the separate legally binding document and put forward in the 1983 Draft Treaty on the Prohibition of the Use of Force in Outer Space and from Space Against the Earth. In this Draft the principle of non-use of force in outer space and from outer space received the complete expression both from the point of view of legal obligations of the States, as well as from the point of view of its reinforcement by the measures of material character prohibiting creation, test and deployment of the space facilities

used for aggressive purposes. Thus, the important proposal that was meant to implement by means of treaty a fundamental principle of international law with reference to activity in outer space, from outer space to the Earth, and from the Earth to outer space was put forward. Unfortunately, this draft was not translated into life.

In the time of confrontation between the USSR and the USA a positive step was made by conclusion of the Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War Between the US and the USSR (Nuclear Accident Agreement) of 1971, the subsequent Agreement on the Prevention of Nuclear War of 1973, as well as the Agreement on Measures to Improve the US-USSR Direct Communications Link ('Hot Line' Modernization Agreement) of 1971. Russia as a successor of the former Soviet Union strictly fulfills the obligation of these agreements. The first of these agreements requires Parties to notify each other immediately about the signs of interference with their early warning systems or related communication facilities, including those in outer space, if such interference could create a risk of nuclear war; to notify in cases of

unauthorized or unpredictable incident connected with a possible detonation of nuclear weapon; about detection of unidentified objects by their early warning systems; about missiles launched from the territory of one state in the direction of another. After a series of consultations held between the the Russia and the USA on May 30 1994 the Agreement on the end of targeting of strategic missiles against each other was signed that practically was realized during 1995. The American and Russian onboard missile computers with divided war heads, were switched to the 'zero' flight programs (tasks) put into memory of computers together with other real flight programs. In 1995 Great Britain and China also declared about the cease of targeting of the missiles at the territory of Russia and other nuclear powers. The shortcoming of such measure is that it is not subject to the control and can be quickly put on the reverse. Nevertheless, this Agreement has a great political value and is based on mutual confidence. According to the article 51 of the United Nations Charter, each state has the inherent right of individual or collective self-defense if an armed attack takes place against a Member of the

United Nations until the Security Council has taken measures necessary to maintain international peace and security. Since the near-Earth outer space is not declared to be eliminated from an act of warfare in case of armed conflict between the States, according to the binding norms of international law including the United Nations Charter, it is necessary to recognize lawfulness of the use of outer space for a retaliatory strike against the State supporting international terrorism in case of an armed attack as a valid self-defense measure.

In the agenda of each session of the United Nations General Assembly we may find included two items: 'Prevention of an arms race in outer space' and 'International cooperation in peaceful use of outer space'. One may regard these items as two sides of the coin. The problems covered by these items are debated in details annually: the first one in the It is necessary to remark, that the success in international cooperation on the peaceful use of outer space is out of harmony with the problem of prevention of placement of any kinds of weapons in outer space.

At the same time the annual resolutions of the UN General Assembly on this problem find

broad support of the international community. Nobody dares to vote against such resolution.

#### **4. The Military Satellite Systems Against International Terrorism.**

From the beginning of a space age the military considerations were key factors of space activity of the States. At present-day situation the satellites of various functions (early warning, communication, data acquisition, reconnaissance and navigation) were actively used and continue to be used with the purposes of raising efficiency of ground armed forces, especially in the fight against international terrorism. At the same time such satellites are not a weapon in the sense of that word since they do not create by themselves the threats of armed attack in outer space or from outer space.

Moreover, this satellite system promotes maintaining of stability in the international relations. For this reasons the reconnaissance and data acquisition satellites are effective means used for the verification of the observance by some States of non proliferation of nuclear and other weapons of mass destruction and non violation by them of the appropriate agreements. Such satellite systems are under international protection as the

national technical means of the verification and control. Similar protection is enjoyed by the early warning satellites. With the help of space communication facilities the more reliable operative connection of the statesmen is organized in the strained situations. By this way the probability of making the incorrect retaliatory decisions in critical political situations is reduced. At the same time it is necessary to take into consideration that the activities of such satellite systems are tightly connected with ground armed forces of the States.

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## NOTES

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<sup>1</sup> United Nations Treaty Series, vol.480, .6964.

<sup>2</sup> United Nations Treaties and Principles on Outer Space. United Nations, New York, 1999, p.3-7.

<sup>3</sup> Official Records of the General Assembly, A/RES/3172, 1977, Annex

<sup>4</sup> United Nations Treaties and Principles on Outer Space. United Nations, New York, 1999, p.22-29

<sup>5</sup> Community Disarmament. CD/9-1979, March 26

<sup>6</sup> Official Records of the General Assembly, A/36/192, 20 August 1981

<sup>7</sup> Official Records of the General Assembly, A/38/194, 23 August 1983

<sup>8</sup> Conference on Disarmament CD/PV 428 1987 August 6

<sup>9</sup> Prevention of an Arms Race in Outer Space: A Guide to the discussions in the Conference on Disarmament. UNIDIR. NY 1991, p.117-128.

<sup>10</sup> Conference on Disarmament CD/937, 1989 July 21

<sup>11</sup> Conference on Disarmament CD/OS/OW.59 1993 March 12

<sup>12</sup> Conference on Disarmament CD/PV 428 1987 August 6

<sup>13</sup> Conference on Disarmament CD/PV.410 1987 April.30

<sup>14</sup> Conference on Disarmament CD/PV 410, 1987 April 30.

<sup>15</sup> John PIKE The military uses of outer space. SIPRI YEARBOOK 2001. Armaments, disarmaments and international security. Stockholm International Peace Research Institute. Oxford University Press