

Military Space Activity in the Light of General International Law

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The history of human civilization indicates that all technical achievements suitable for military use sooner or later contribute to the means of warfare.

Aviation made the first steps toward the conquest of the airspace when *H. G. Wells* published his utopian work "War in the Air" in 1908. He wrote of air raids by dirigibles against targets of the rear in future wars. In less than 40 years air fleets laid towns in ruins and the first atomic bombs were dropped.

The launching of the first artificial satellites raised the well-founded hope and wish to save this new achievement, the space exploration from this fateful development: space activity should be reserved for peaceful purposes. This principle has been voiced in various private drafts and declarations before UN Resolutions. E.g. the ILA Declaration of Hamburg (1960): „Outer Space and celestial bodies should be utilized only for peaceful purposes to the greatest common profit of all mankind in accordance with the principles of the UN Charter.” (1)

Preceding the Space Treaty of 1967 “peaceful use” connected with “common interest” appears again in UN GA Resolutions 1721/XVI and 1962/XVIII. At present, space technology plays an indispensable role in military planning and armed conflicts. The US Air Force Chief of Staff Merriell Mc Peak defined the “Desert Storm” as the first “space war”, because in this conflict the full range of military space assets was applied. (2) The well-meant hopes failed – military space activity opened new dimensions of strategy. Whether this development is lawful or violates international law, depends on the interpretation of space law rules (*jus speciale*) and general international law (*jus generale*) applying to military space activity.

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I

The conviction that space exploration can not be “*legibus soluta*”, it does not take place in a legal vacuum, goes back to the time before the Space Treaty. This led to the recognition that international law should govern international relations relating to space activities. GA Res. 1721/XVI recommended the states to observe the principle that “international law including the Charter of the United Nations applies to outer space and celestial bodies.” In Article III of the Space Treaty the principle became treaty law. The validity of general international law in respect of activities on the Moon and other celestial bodies within the solar system other than Earth was confirmed by Article II of the Moon Agreement.

Needless to underline the declaratory character of this treaty stipulations. Space exploration is a geocentric activity constituting legal relations on Earth between states governed by general international law in all respects not covered by special rules of space law.

Artificial satellites launched with military destination appeared in 1958-59 in orbit around the Earth. The first USA military satellite was the SCORE launched at the end of 1958. The Soviet Union started the COSMOS-series in 1962. (3) Only certain orbital elements indicated that the satellites of this system were carrying out a military program. (4) The Soviet Minister of Defense the first time referred to the Soviet military space program in 1985. (5) The real destination of the COSMOS program was disclosed only in 1993.

Before 1967 the Moon-landing seemed to be a problem of the distant future. On the other hand military activity around the Earth was an obvious reality. No wonder that the leading space powers made it clean any attempt within the context of the Space Treaty to demilitarize outer space would make the treaty as a whole unacceptable. (6) Apparently, this motivated the different treaty regulations of military activity in orbit an on celestial bodies usually characterized as partial and complete demilitarization.

Concerning military use of outer space the Space Treaty is rather laconic. It stipulates restrictions for the orbital movements around the Earth and for activities on the Moon and other celestial bodies. In Article IV.1 States Parties to the Treaty undertake not to place in orbit any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies or station such weapons in any other manner. For celestial bodies Article IV.2 prohibits installing nuclear weapons or weapons of mass destruction, testing any type of weapons, establishing military bases and fortifications, conducting military maneuvers with the general obligation to use celestial bodies exclusively for peaceful purposes. Article III of the Moon Agreement reaffirms this prohibitions for the Moon and orbits around the Moon or other trajectory to or around the Moon.

II

The notion „peaceful” occurs in the Space Treaty in four aspects:

1. Common interest in exploration and use of outer space for peaceful purposes (Preamble)
2. *Exclusively peaceful* purposes for celestial bodies (IV.2)
3. Use of military personnel and equipment for peaceful exploration (IV.2)
4. Cooperation in the peaceful exploration (XI)

The Treaty otherwise does not give an authentic **definition of “peaceful”**. Other Space treaties do not help the theory to find an incontestable interpretation of the term.

In my commentary on the Space Treaty I joined the conception that peaceful use of outer space excludes its use for military purposes, i.e. peaceful = non-military. (7) My arguments were footed on general principles laid down in the Treaty: exploration and use of outer space shall be carried out for the benefit and the interests of all countries, it shall be province of all mankind (Article I. 1.) Consequently exploration and use of outer space should be carried on for the benefit of all peoples (Preamble) therefore “peaceful” is more than peace merely as antithesis of war or armistice. (8) An activity will not be peaceful from the absence of aggression, but by the intent of promoting international cooperation and coexistence. I admitted at the same time that above principles in this context constitute additional, restrictive conditions to general international law applicable to space activities. It means therefore, that the equation: peaceful = non-military would be an element of space law as *jus speciale*.

The theory of peaceful = non-aggressive maintains: if a military activity is in conformity with the international law including the Charter of the United Nations, it is lawful. In the system of the U.N. Charter the opposite of “peaceful” is “aggressive”. The term non-aggressiveness includes the possibility to apply military activities in outer space lawfully as long as those activities do not aim at direct attack in the sense of the U.N. definition of aggression. (9)

This interpretation has been accepted mainly by American authors, but also authors outside the United States (e.g. *A. Meyer* (10), *E. Fasan* (11), *A. Bueckling* (12)). On the other hand the interpretation “peaceful=non-military” was gaining adherents also in the western literature (e.g. *M. Seara Vázquez* (13), *D. Goedhuis* (14), *M. G. Markov* (15)). The opinion that this view was uniformly accepted by socialist space lawyers is hardly tenable. (16) *G. Zhukov – Y. Kolosov* e.g. acknowledge that in the absence of agreement

on the total demilitarization international documents refer to the exploration and use of outer space exclusively for peaceful purposes merely as a goal to be pursued. (17) *E. Kamenetskaya* maintained that military activities may have an aggressive or a non-aggressive character. It cannot be asserted, that international law prohibits any military space activity. (18)

The discussion up to now did not come to a rest. To quote two opinions: Professor *Bin Cheng* thinks that "in order to fit the square peg of the already extensive use of outer space for military purposes into the round and hitherto rather hollow concept of 'peaceful uses' there has unfortunately developed in some quarters the habit of interpreting the term 'peaceful' as applied to outer space as meaning 'non-aggressive' instead of 'non-military'." (19) *R. J. Lee* in a noteworthy paper on the subject states that the use of space has been well established in international law to be exclusively for peaceful purposes only. (20) Whether this statement in the light of interstate practice and development of general international law after the Treaty is justifiable? Non-aggressive military space activity should be accepted as being lawful?

III

One of the arguments for a positive answer is derived from the **dual utilization** of satellites. It is estimated that about 75% of all satellites are functioning for military purposes. (21) Satellites intended for civilian purposes can be used to perform military functions. Under special conditions of global warfare all types of orbital devices can have military aspects. Navigation satellites promote the safety of peaceful navigation, they can be used, however, for the detecting of current position of submarines. Geodetic satellites have the peaceful task of performing exact measurements for science and economy, but they provide data useful for programming the guidance system of ballistic missiles. The same Janus-face have other satellites launched by civil authorities for communication, meteorology and reconnaissance.

This later application has a special importance in respect of permissibility of military space activities. The dual use of remote sensing satellites, especially space reconnaissance for military purposes has been subject of vivid discussions for a long time. Remote sensing itself started as military reconnaissance. *Samos-2* launched in 1961 was the first satellite of an officially recognized military program. (22)

Reconnaissance was the first military use of the aeroplane before the first world war. From the possibility of aerial control pacific dreamers concluded that wars will be in the future impossible. There is nothing new under the sun. To military reconnaissance satellites very early peace-keeping role was attributed. (23)

The Space Treaty does not contain general stipulations concerning remote sensing, still less any special rules of remote sensing for military purposes. The Remote Sensing Principles (G.S. Res. 41/65) are of recommendatory character, the Resolution is no binding source of international law. Before and after the Space Treaty under the conditions of cold war authors in East and West inclined to qualify this activity as illegal space espionage. The early socialist literature at first has taken a unanimous stand against the legality of "intelligence satellites". Beside arguments based on general principles of the Space Treaty (Article I) general international law was referred to. In the western literature opinions on the practice of space reconnaissance ranged from theoretical opposition (*D. Goedhuis* (24), *W. Jenks* (25)) to legalization deducted in the same way from general international law. ("Observation from outer space like observation from the high seas is consistent with international law") (26)

The SALT Treaties between the United States and the Soviet Union recognized the legality of military space observation. Remote sensing satellites, though without definition of the term, were accepted as "national means" of monitoring: "For the purpose of providing assurance of compliance with the provisions of the Treaty... each party shall use national technical means of verification at

its disposal in a manner consistent with generally recognized principles of international law.” The treaties also provide that the parties will not interfere with each others “national technical means”. (27)

The acceptance of mutual monitoring by observation satellites and the protection of this activity is contained in agreements between two major space powers. International treaties are not effective “erga omnes”. For states not being parties to the treaty it is an “acta inter alios”. On the other hand up to now, no formal protests are known to have been made concerning this kind of surveillance by satellites.

In the theory of space law this silence is understood as silent consent and interpreted in different ways. Some authors conclude the institution of a customary law rule. “Having offered the evidence of a long practice and an opinion accepting the military space observation’s legality, one could consider that the demonstration of this activity’s *customary legality* is complete”. (*I. Kuskevelis* (28)) Others are of the opinion that the legality of space reconnaissance follows directly from general international law: “The application of international law to outer space would not inhibit military remote sensing activities, as remote sensing does not involve a threat of use of force.” (*R. L. Lee* (29))

I am inclined to think, that the *opinio juris* manifested by silent consent did not create a *sui generis* customary law rule. It confirms rather the later opinion concerning correspondence of military space reconnaissance with general international law.

IV

Before the Space Treaty the first source of **domestic space law**, the 1958 National Aeronautical and Space Act declared: the policy of the United States is that activities in space should be devoted to peaceful purposes for the benefit of all mankind. One of the promoters of the Act *C. J. Feldman* stated to this wording that peaceful means non-aggressive rather than non-military. (30) NASA as a civilian agency was created to control such ac-

tivities, except that activities associated with the development of weapon systems, military operations or defense of the United States shall be the responsibility of the Department of Defense (CFR. § 1201.101). The term “peaceful” in the context of the Act in this way applies to both civilian and military activities.

Space law Acts after 1967 referring to principles of the Space Treaty obviously likewise govern both kinds of activities. Prohibitions of Article IV are converted into domestic space law. E.g. in the Law of the Russian Federation (1993) it is prohibited to put into orbit around the Earth or deploy in outer space otherwise nuclear weapons and any kinds of weapons of mass destruction, to use the Moon and other celestial bodies for military purposes, or to carry out activities which are prohibited by international treaties of the Russian Federation. The Russian Space Agency shall be responsible for carrying out space activities for scientific and national-economy purposes. Activities for the purpose of defense and security of the Russian Federation shall be pursued by the Ministry of Defense. In this system, similarly to the domestic law of the United States, military space programs, military space technics and non-aggressive military space activities are treated as being consistent with space law and general international law. (31) The Law of the Ukraine on Space Activities (1996) follows the same model. (32) Other space acts referring to international commitments and responsibilities in respect of the “peaceful utilization of outer space” can not be interpreted in such a way that peaceful utilizations would exclude non-aggressive military space activities.

V

Under the impression of the first achievements of space exploration some military theoreticians considered that the surface of the Earth in the future can be excluded from military operations. Theatre of war would be the outer space where robot weapons of the “belligerents” would wage a fully

mechanized "human" warfare. (33) It is quite certain that "in a global space war" blows against launching bases and the whole space infrastructure of the enemy would become inevitable. (34)

As mentioned above, the Golf War demonstrated the importance of military space technology in **armed conflicts** not only for strategic planning but also for tactical actions. Satellite support in the future will grant the superiority against an opponent that does not have such technology.

In the sparkling formulation of *P. Jankowitsch*: in a conflict between two space powers having equal space capability the destruction of an opponent's eyes and ears in space could have an important effect on the outcome. The importance of satellite support increases the potential impact of anti-satellite weapons. (35) We have to add: not only in respect of military remote sensing and communications. All satellites constituting an integral part of nuclear and conventional weapon systems in future conflicts may become targets for military actions.

Article II.4 of the UN Charter contains the basic principle of general international law: threat or use of force in international relations against the territorial integrity or political independence of any state or in any other manner is inconsistent with the purposes of the UN. The Moon Agreement only reaffirms this principle. Any threat or use of force or any other hostile act on the Moon is prohibited. It is likewise prohibited to use the Moon in order to commit any such act in relation to the Earth, the Moon, spacecraft, the personnel of spacecrafts or man-made space objects. International space law in this respect is no veritable *jus speciale*. It is not else than an adaptation of general international law rules to activities connected with the Moon and other celestial bodies within the solar system other than the Earth. (Article I.1)

The existence of any threat to the peace, breach of the peace or act of aggression shall be determined by the Security Council (UN Charter Article 39). In a given case the Security Council should act without having a legally binding definition of the concept "Ag-

gression". The definition of GA Resolution 3314 (XXIX) is merely a guidance in determining the existence of an act of aggression for the purpose of Article 39. Obviously this apply also to military space activities involving threat or use of force, hostile act or act of aggression. The UN Res. contains a list of *prima facie* act of aggressions. Applying some elements of the enumerated acts to military space activity, an act of "space aggression" against the territory, land forces or air fleets of another state would be technically possible. Thought provoking view of *Y. Kolosov* is that since the list of the UN Res. is not exhaustive, aggressive space activities might comprise cases of support of combat operations of an aggressor state in the course of a military conflict. (36)

Destruction of a space object of another state by own space object or ASAT weapon could be qualified as an "act of space aggression". Otherwise the Security Council in the light of the gravity or the consequences of such conduct would decide what measures shall be taken in accordance with Articles 41 and 42 of the Charter.

VI

In Article IV.1 of the Space Treaty Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear or other mass destruction weapons and not to station such weapons on celestial bodies and in outer space in any other manner.

Since any **stationing of weapons** in outer space postulates an orbital movement, in the sense of the Space Treaty suborbital military activities are not covered by this provision. The action of an ASAT missile carrying an explosive warhead launched from the ground or from air may be the subject of general international law. On the other hand the wording of the Article demonstrates that this ban is not attached to any delimitation of outer space. (37) It concerns also the so called FOB weapons which are, though partially, placed in orbit.

The meaning of "weapons of mass destruction" is disputed in space law literature.

Biological and chemical weapons are usually considered as such means. Professor *S. Gorove* referred to the relativeness of “mass” as an element of this notion. (38) I am inclined to think that the decisive feature may be derived from general international law (*ius in bello*). Weapon of mass destruction is any technical device, the effects of which make any differentiation between combatants and non-combatants impossible.

Other types of weapons not comprised by Article IV.1 are outside the ban. Orbital objects carrying conventional bombs would be – as compared to ICBM-s – a very costly, disadvantageous weapon. Placing in orbit of revolutionary new weapons: charged particle beam weapons (PBW), directed energy weapon (DEW) or high energy laser (HEL) is not prohibited by the Space Treaty. Beyond the ban of Article IV.1 of the Treaty general international law prohibits neither the placing in orbit such systems. (39) nor equipments increasing the capability of ballistic missiles to hit targets. This is a far more effective space armament than weapons in orbit around the Earth.

VII

“International law including the Charter of the United Nations” raises the question of **self-defense** under the special conditions of “space warfare” Article 51 of the Charter acknowledges this right in case of an armed attack until the Security Council has taken the measures to maintain international peace and security. The possibility of defense in the modern “strategy of seconds” depends on speed. The responsible military commands certainly would have no time to legal considerations faced with an imminent identified attack from space.

In the early literature of space law *J. C. Cooper* stated that neither Article 2 nor 51 of the Charter had limited the fundamental right of a state to oppose force against an imminent attack, or danger threatening its existence. (40) *G. P. Zhukov* rejected this view with the argument that Article 51 does not allow preventive action by way of self-defense. He

added, however, that this does not deprive a state of the right to take the necessary and corresponding measures for safeguarding its security. (41) The intention of the authors was not to legalize some kind of preventive war. Practically both opinions on the right of self-defense take into account the special need of extraordinary fast reactions in “space warfare”. In this sense I agree with them. The right of self-defense does not commence when e.g. a nuclear weapon hits its target i.e. the armed attack has already taken place. The interception of the attacking object or any other measure for preventing the attack in case of emergency even beyond the state territory would be an act of self-defense.

VIII

The formula: belligerent states A and B, neutral state C is for a number of armed conflicts nowadays hardly applicable. In the light of recent developments the classic notion of **neutrality** raises questions worthy to be considered. The rules of general international law, however, are legally binding for space activities of states being out of the armed conflict. The obligation of the neutral state is a customary law rule to stand out of the war and maintain impartiality toward both parties to the conflict. (42) From this general obligation follows the duty of a neutral nation to abstain from helping or assisting one belligerent to the detriment of another belligerent. (43) The neutral state must give no assistance direct or indirect to either belligerent side. (44)

The Hague Convention V of 1907 sets out the obligations of a neutral state in land warfare corresponding to above principles of international customary law. Concerning transmission of informations the Convention provides among others that the belligerents may not erect wireless stations in neutral territory for the purpose of communicating with their armed forces. They may also not use such installations which prior to the war they have established there for purely military purposes. (45) The U.S. Communications Act (1934) in order to preserve the neutrality of the U.S.

authorized the President to suspend rules and regulations applicable to any or all stations and may cause the closing of any station which is suitable as a navigational aid beyond five miles. (46)

Similar norms corresponding to the technical conditions of "good old times" could be hardly applicable to space neutrality of the age of space communications and remote sensing. Informations from dual capability systems (geodetic, navigation, weather satellites) are utilizable for both sides. On the other hand handing over primary or processed data of tactical importance obtained by reconnaissance satellites of a neutral state to one of the belligerents would be a non-fulfillment of an obligation expressed in the U.N. Res. 41/65 on remote sensing. We quote here Principle IV: this activity shall be conducted with due regard to the rights and interests of other states *not being detrimental to the legitimate rights and interests of the sensed State*.

Subjects of international law of neutrality are states not private entities. A reasonable question is, how could be qualified the sale of data of tactical importance by a non-governmental, commercial organization to

one of the belligerents, State responsibility for the non-state violation of law follows from Article VI of the Space Treaty demanding authorization and continuing supervision by the appropriate state. This concerns remote sensing activity processing and dissemination of data included.

+ + +

„Ensuring that outer space is devoted exclusively to peaceful purposes has remained a most important goal, but until now that goal has been achievable only to a limited degree. It has not been politically possible to bar arms from the new dimension. It is now, with the cessation of the cold war and with new relations developing between all powers, that *it may be possible to give full effect to the principle of the use of outer space for exclusively peaceful purposes*." The words of M. Lachs voiced a vain hope ten years ago. (47) In positive treaty space law the principle of exclusively peaceful purposes has been restricted to the legal status of celestial bodies. Military space activities otherwise are mainly ruled by general international law facing serious new challenges of this last decade.

Footnotes

- 1.) ILA Report 1960, p. 268. *O. Schachter* a long time before the space exploration was realized believed that potential danger of military satellites would lead to the prohibition of their military use. *Legal Aspects of Space Travel*. Journal of British Interplanetary Society. 1952, p. 16
- 2.) *J. M. Filho*: Total Militarization of Space and Space Law: The future of the Article IV of the 67' Outer Space Treaty. IISL Coll. 1967, Proceedings p. 359. (US Armed Forces were supported by 15-20 signals intelligence satellites, 3 weather satellites and up to 16 Navstar Global Positioning Systems)
- 3.) Soviet experts at the same time pointed out that the Soviet Union has to prepare means and methods for space defense. *V. D. Sokolovsky*: *Voyennaya strategiya* 2nd ed. Moscow 1963, p. 504
- 4.) *Almár–Both–Horváth*: *Úrtan* (Space Science) Budapest 1996, p. 251
- 5.) *E. Kamenetskaya*: Outer Space and the Term "Militarization". IISL Coll. 1990, Proceedings p. 225
- 6.) *Bin Cheng*: *Studies in International Space Law*. Oxford 1997, p. 246
- 7.) *G. Gál*: *Space Law*. Budapest–Leyden–Dobbs Ferry 1969, p. 171
- 8.) "Peaceful, in a sense, is more peaceful than peace itself" *A. Bueckling*: *Friedliche Benutzung des Weltraums*. *Zeitschrift für Luft- und Weltraumrecht* 1966, p. 241
- 9.) *G. C. M. Reijnen*: The Term "Peaceful" in Outer Space. IISL Coll. 1982, Proceedings p. 146
- 10.) *A. Meyer*: *Legal Problems of Outer Space*. *Journal of Air Law and Commerce* 1961/62, p. 253
- 11.) *E. Fasan*: *Weltraumrecht*. Mainz 1965, p. 78
- 12.) *A. Bueckling*: *Der Weltraumvertrag*. Köln etc. 1980, p. 39
- 13.) *M. Seara Vázquez*: *Cosmic International Law*. Detroit 1965, p. 151
- 14.) *D. Goedhuis*: *General Questions on the Legal Regime of Space*. ILA Report 1962, p. 83
- 15.) *M. G. Markov*: *La notion de l'utilisation pacifique en droit international cosmique*. *Revue Générale de l'air* 1966, Extrait p. 4
- 16.) *M. M. Mateesco–Matte*: *Outer Space Treaty*. In: *Encyclopedia of Public International Law – 11*. Amsterdam etc. 1989, p. 252
- 17.) *G. Y. Zhukov – Y. Kolossov*: *International Space Law*. New York etc., p. 57
- 18.) *E. Kamenetskaya*: op. cit. Note 5, p. 225. Similarly *G. Reintanz*: *Weltraumrecht*. Berlin 1978, pp. 80–81. *G. Gál*: *Activities on Orbit and on Celestial Bodies*. Two notions of peaceful Uses? IISL Coll. 1982, Proceedings p. 86
- 19.) *Bin Cheng*: op. cit. Note 6, p. 247
- 20.) *R. L. Lee*: *Military Use of Commercial Remote Sensing Data*. IISL Coll. 2001, Proceedings p. 246
- 21.) *S. R. Chowdhury*: *The Permissibility or Non-Permissibility of Military Uses of Outer Space*. IISL Coll. 1988, Proceedings p. 13
- 22.) Op. cit. Note 4, p. 255
- 23.) *I. Münch*: *Grundfragen des Weltraumrechts*. *Archiv des Völkerrechts* 1959, vol. 8. p. 171 ("friedenserhaltende Funktion")
- 24.) *D. Goedhuis* op. cit. Note 14, p. 81
- 25.) *G. W. Jenks*: *Space Law*. London 1965, p. 305
- 26.) *L. C. Meeker*: *Observation in Space*. Proceedings of the first McGill Conference on the Law of Outer Space. Montreal 1964, p. 82
- 27.) E.g. 1972 ABM Treaty Art. II, 1972 SALT–I Art. V, 1979 SALT–II Art. XV, 1987 INF Treaty Art. XII. See: *J. Ondřej*: IISL Coll. 1990, Proceedings p. 338-339. *P. Jankowitsch*: *Legal Aspects of Military Space Activities*. In: *Space Law* ed. by N. Jasentuliyana. Westport etc. 1992, p. 151-152

- 28.) *L. Kuskevelis*: The Customary Legality of Military Space Observation and Proposals towards ITS Codification. IISL Coll. 1990, Proceedings p. 310. U.N. Secretary General's Report in International Satellite Monitoring Agency. – A/AC.206/14. (“there are no provisions in general international law including space law that would entail a prohibition to carry out monitoring activities by satellites”).
- 29.) *R. L. Lee*: op. cit. Note 20, p. 250
- 30.) Quoted by *S. M. Beresford*: Surveillance Aircraft and Satellite. Journal of Air Law and Commerce 1961, p. 109
- 31.) Art. 26–28.
- 32.) Art. 9.
- 33.) E.g. *M. N. Golovine*: Conflict in Space. A Pattern of War in a New Dimension. London 1962, p. 119. (“An eventual full-scale orbital war might be the only human solution of the apparently insoluble East-West ideological and political opposition.”)
- 34.) *I. H. Ph. Diederiks – Verschoor*: An introduction to Space Law. Deventer–Boston 1993, p. 128
- 35.) *P. Jankowitsch*: op. cit. Note 27, p. 154
- 36.) *Y. Kolossov*: Notions of “Peaceful” and “Military” Space Activities. IISL Coll. 1982, Proceedings p. 118
- 37.) Military space activity is an *orbital activity*. The spatial approach – recently formulated by *F. G. von der Donk* in an outstanding monography: “space activities *stricto sensu* should in principle be equated to activities at least partly taking place *in outer space*” – would be hardly applicable to the ban of Article IV. See: Private Enterprise and Public Interest in the European ‘Spacecope’. Leiden 1998, p. 13
- 38.) *S. Gorove*: Article IV of the 1967 October Space Treaty and Some Alternatives for Further Arms Control. In: Maintaining Outer Space for Peaceful Purposes. Proceedings of a Symposium Held in The Hague, March 1984, p. 81
- 39.) *P. Jankowitsch* rightly states: The exclusion of such systems from the scope of the prohibitions was clearly intentional. It has become of practical military importance. Op. cit. Note 27, p. 147
- 40.) *J. C. Cooper*: Self-Defense in Outer Space and the United Nations. Zeitschrift für Luft- und Weltraumrecht 1962, p. 198. *O. Schachter*'s reasonable comment: “In almost every case where a state has used force since 1945 it has claimed that it did so on legitimate self-defence.” International Law in Theory and Practice. Dordrecht etc. 1991, p. 401
- 41.) *G. P. Zhukov*: Weltraumrecht. Berlin 1968, p. 36
- 42.) *P. Guggenheim*: Lehrbuch des Völkerrechts. Basel 1951, p. 997
- 43.) *R. C. Hingorani*: Modern International Law. Dobbs Ferry–New York 1978, p. 372
- 44.) *J. G. Starke*: An Introduction to International Law – VIII. ed. London 1977, p. 128
- 45.) *G. Schwarzenberger*: A Manual of International Law. V. ed. London 1967, p. 222
- 46.) 47 USC Chapter 5. Wire or Radio Communication. Section 606. War Powers of the President.
- 47.) *M. Lachs*: Foreword to Space Law, ed. by N. Jasentuliyana, Westport etc. 1992, p. X.