Balázs Bartóki-Gönczy – Boldizsár Nagy

The Artemis Accords and International Space Law: An Instrument of Renewal or Fragmentation?[1]

INTRODUCTION

Forty-five years have passed since 1979, when the Moon Agreement, last UN treaty exclusively dealing with space activities was adopted. The low number of ratifications of that document[2] marked the end of an era. Since then – despite numerous non-binding instruments and the rise of legislation at national level – the universal legal environment of space activities has been effectively frozen.

This seems clearly to be a problem, since in the meantime the perspectives and the significance of human space activities have remarkably grown and the pace of development is further increasing due to commercialisation and technological developments as well as geopolitical transformations and conflicts. The law, in particular public international law, plays a very important role in laying down the rules of the road, without which conflicts and market failures may arise. The *corpus juris spatialis* of today does not give clear answers to certain major problems which could lead to conflicts between states or which might hinder the development of the commercial space sector.

Beyond the imminent challenges of space traffic management and space debris mitigation, the questions that will arise from Moon missions and space resource exploitation need attention from a legal perspective. These could be considered purely theoretical questions for researchers since humanity is far

[1] The present Chapter is partially based on Bartóki-Gönczy – Nagy 2023.

[2] In April 2024 the number of parties stood at 17.

DOI: https://doi.org/10.36250/01208_07

from being able to "mine" celestial bodies at present. However, considering the commercialisation of the sector where profit is the priority, we would disagree. For companies to commit to investing in research and development into technologies for exploiting space resources on a large scale, legal certainty is required. However, according to some views the Outer Space Treaty is ambiguous with regard to the permissibility of space resource exploitation and to its preconditions.

This alleged ambiguity was highlighted by the United States of America when it unveiled the so-called Artemis Accords (hereinafter: the Accords) on 13 October 2020 which – as we will explain below – is not actually a treaty but which still might influence the development of the normative framework of human space activities on the Moon and possibly on other celestial bodies in the future. The Accords set up a broad cooperative framework, primarily aimed at returning to the Moon. As of May 2024, fourty states have decided to join it. The Accords may give a boost to the development of the legal regime of the exploration and use of outer space, as defined by the existing treaty framework,[3] by supporting the American interpretation of the non-appropriation principle. On the other hand, they may upset the existing legal regime of outer space leading to its fragmentation by causing states to abandon multilateralism. The issue is of high importance as China and Russia are drawing up plans – also involving international cooperation – with regard to the Moon and other celestial bodies, so the danger of parallel systems and interpretations looms large.[4] This chapter highlights those aspects of the Accords that may affect

[3] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, 1967, 610 UNTS 205; Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, 1968, 672 UNTS 119; Convention on International Liability for Damage Caused by Space Objects, 1972, 961 UNTS 187; Convention on Registration of Objects Launched into Outer Space, 1975, 1023 UNTS 15; Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, 1363 UNTS 21.

[4] See the presentation on the International Lunar Research Station of the Chinese Deep Space Exploration Laboratory of CNSA to UNOOSA at https://www.unoosa.org/documents/pdf/copuos/2023/TPs/ILRS_presentation20230529_.pdf.

the edifice of international law relating to Outer Space. It emphasises the most debated principles of the Accords as an instrument dealing with space resources and safety zones and also addresses the proposed concept of space heritage.

SCOPE OF THE ACCORDS

The territorial scope of the Accords is peculiar: it covers the Moon, Mars, comets and asteroids, including their surface and subsurface, as well as the orbits of the Moon and Mars, together with the Lagrangian points for the Earth–Moon system, and the transit trajectories between these celestial bodies and locations (Section 1.) Other celestial bodies and orbits of the Solar system or beyond are not within the territorial scope of the Accords.

The material scope is also limited, as it only extends to civil space activities conducted by "civil space agencies", "with the intention of advancing the Artemis Program".[5] The question of when an agency qualifies as "civil" is not specified and one would not expect that agencies which maintain collaborative projects with military establishments would be excluded – as for example NASA's cooperation with the DoD.[6]

One of the stated aims of the cooperating partners is to send "the first woman and next man to the Moon".[7] According to the modified plans, a human crew will fly by the Moon without landing on it in 2025 and will land on the Moon during the Artemis III mission in 2026 or later. The construction of a small space station orbiting around the Moon, the "Gateway" is ongoing

[5] Find the updated Artemis program in NASA 2020. It is also worth mentioning that there is an ambiguity whether signatories of the Accords are automatically in an advantageus position to participate in the Artemis program or the Accords and the Program are not so closely related. The latter seems logical considering the high and quickly increasing number of signatories.

[6] Vergun 2020.

[7] NASA Publishes Artemis Plan to land first woman, next man on the moon in 2024. For the detailed description of the sequence, including Artemis Missions I, II and III see NASA's Lunar Exploration Program Overview, the Artemis program in NASA 2020.

with the first two (unmanned) elements to be placed in orbit soon. It will be a multi-purpose object, providing support for lunar surface missions, a base for scientific research and a staging point for further deep space exploration.[8] At a later phase the program should establish a continuous presence on the Moon and later reach Mars.

The Accords are open for signature by any state. This lends it the character of a framework. Consequently, the commitments of the signatories towards each other do not presume alliance or onerous cooperation. The regulation of actual cooperation and of issues related to the delicate questions of liability, intellectual property, the transfer of goods and technical data is left to bilateral or multilateral instruments to be adopted in the future. An example of such an agreement is the Memorandum of Understanding between the NASA and the European Space Agency concerning cooperation on the civil lunar gateway signed in Darmstadt and Tulsa on 22 and 27 October 2020[9] which is a 31 page long document addressing all these questions in 24 Articles. Russia officially rejected the possibility of joining the Accords, criticising the initiative as an attempt to privatise outer space.[10]

The other main rival of the U.S., China, is not among the signatories either. This is not only because the internal legal regime of the U.S. prohibits cooperation between NASA and China[11] but also due to the fact that China (together with Russia) is building its own network of allies for their International Lunar Research Station (ILRS) project,[12] which clearly reflects the competition between the space superpowers.

8 Find Gateway NASA at https://www.nasa.gov/mission/gateway/.

9 U.S. Treaties and Other International Acts Series 20-1027.

10 Russian News Agency (TASS).

11 See "Wolf Amendment" in *Public Law* 117–103, 15 March 2022, section 526, 136 Stat. 49, and the International Traffic in Arms Regulations (ITAR).

12 International Lunar Research Station (ILRS) Guide for Partnership.

THE LEGAL CHARACTER OF THE ACCORDS

The Accords do not constitute a treaty. That is stated unequivocally in Section 13, according to which the Accords are "not eligible for registration under Article 102 of the Charter of the United Nations" and is confirmed by Section 1, stating that the Accords "represent a political commitment". Nor do they in their entirety reflect the emerging customary international law, as several states "whose interests are specifically affected", in the words of the International Court of Justice (ICJ) in the North Sea Continental Shelf Case,[13] do not recognise the elements of the envisaged practice as a reflection of custom. Academic commentaries have classified the principles of the Accords into three categories:[14]

- Principles and norms reflecting existing international norms (Sections 1 and 7: Benefit of humankind; Section 3: Exclusively peaceful purposes, accordance with international law; Sections 4 and 8: Transparency and sharing of scientific information; Section 6: Assistance/rescue in outer space; Section 7: Registration; Section 12: Preventing and mitigating space debris).
- Principles and norms which are claimed to simply refine and operationalise existing rules (Section 5: Interoperability; Section 10: Space resources; Section 11: Safety zones – deconfliction of space activities).
- Essentially novel elements (Section 9: Outer Space heritage).

Even those principles of the Accords which are seemingly in line with international law may on closer scrutiny turn out to deviate from the existing rules or limit their scope. For example, the goal of peaceful use is limited to civil space activities (however they may be defined) leaving the increasing militarisation of Outer Space unaffected, while the promise of transparency in Section 4

[13] North Sea Continental Shelf, Judgment, I.C.J. Reports 1969, para. 3.

[14] Our categorisation relies but does not coincide with Delplano's categories. Delplano 2021.

only extends to space policies and exploration plans, but not to the actual exploration nor to – perhaps more importantly – the practice of exploitation.

For the sake of brevity, not all these principles will be examined here but only the two most debated ones on the exploitation of space resources and the creation of safety zones, both of which raise questions related to the application of Article II of the Outer Space Treaty (the principle of non-appropriation). Subsequently, we will briefly address a genuinely novel element, space heritage.

SPACE RESOURCES

Arguably the most controversial section of the Accords is the provision on the use of space resources.[15] According to Section 10:

1. The Signatories note that the utilization of space resources can benefit humankind by providing critical support for safe and sustainable operations.
2. The Signatories emphasize that the extraction and utilization of space resources, including any recovery from the surface or subsurface of the Moon, Mars, comets, or asteroids, should be executed in a manner that complies with the Outer Space Treaty and in support of safe and sustainable space activities. The Signatories affirm that the extraction of space resources does not inherently constitute national appropriation under Article II of the Outer Space Treaty, and that contracts and other legal instruments relating to space resources should be consistent with that Treaty.
3. The Signatories commit to informing the Secretary-General of the United Nations as well as the public and the international scientific community of their space resource extraction activities in accordance with the Outer Space Treaty.

The basis of the debate is that the wording of the 1967 Outer Space Treaty (hereinafter: OST), ratified by more than 110 states, including all the spacefaring

[15] See also DE ZWART et al. 2023: 158.

nations, leaves room for different interpretations. According to Article II of the OST: "Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."

The United States' position has been consistent: the OST does not prohibit the exploitation of space resources. Exploitation is a freedom guaranteed by Article I of the OST. The Commercial Space Launch Competitiveness Act of 2015 stipulates:

> "A United States citizen engaged in commercial recovery of an asteroid resource or a space resource under this chapter shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell the asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of the United States."[16]

The executive order issued by president Trump in April 2020 declares that

> "outer space is a legally and physically unique domain of human activity, and the United States does not view it as a global commons. Accordingly, it shall be the policy of the United States to encourage international support for the public and private recovery and use of resources in outer space, consistent with applicable law".[17]

In line with this position, the Unites States' delegation noted in its submission at the 62nd session of the UN COPUOS Legal Subcommittee in March 2023 that the prohibition of national appropriation articulated in Article II of the OST does not

> "limit ownership to be exercised by States or private entities over those natural resources that have been removed from their 'place' on or below the surface of the Moon or other

[16] U.S. Commercial Space Launch Competitiveness Act, *Public Law* 114-90-Nov. 25, 2015, Title IV.

[17] The White House 2020.

> celestial bodies. Such removal is permitted by Article I of the Outer Space Treaty, which provides that 'outer space, including the moon and other celestial bodies, shall be free for exploration and use by all States'."[18]

This position is subject to scrutiny.[19] One may note the difference between "exploration and use" on the one hand and "exploitation" on the other. The first phrase actually refers to the "province of all mankind" idea expressed in Article I of the OST and essentially calls for international cooperation to benefit all states, especially the developing states as expressed in the pertinent UN General Assembly resolution.[20] The second term, exploitation, refers to economically viable utilisation, including purely commercial activities. Views on the permissibility of the second vary. Contrary to the U.S. position, the acknowledged scholar, Tronchetti states: "Outer space, being a 'global commons', a state cannot without further ado use its national law to protect private (and public) business interests related to extraterrestrial mining activities."[21]

Critics of the U.S. position also refer to the Moon Agreement which provides that the exploitation of space resources is only possible if the State Parties establish an international regime assuring, inter alia, the equitable sharing by all State Parties of the benefits derived from exploitation while addressing the needs of developing countries and guaranteeing orderly, rational and safe operations.[22]

[18] United States – Input to the Working Group on Legal Aspects of Space Resource Activities, 21 March 2023, UN COPUOS, A/AC. 105/C.2/2023/CRP.37.

[19] For an intensive refusal of the individual national regulation approach and call for a concerted international action read the open letter signed by more than a hundred scholars at https://outerspaceinstitute.ca/osisite/wp-content/uploads/International-OpenLetterOnSpaceMining.pdf. De Zwart et al. 2023: 158 also note the existence of the debate.

[20] Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries UNGA 51/122 of 13 December 1996.

[21] Tronchetti 2015: 791.

[22] Moon Agreement, Article 5 and 11 (2).

The significance of this rule is reduced by the fact that the agreement had only 17 parties in April 2024, which did not include a single spacefaring nation. The U.S. made no secret of its view that:

> "[T]he United States does not consider the Moon Agreement to be an effective or necessary instrument to guide nation states regarding the promotion of commercial participation in the long-term exploration, scientific discovery, and use of the Moon, Mars, or other celestial bodies. Accordingly, the Secretary of State shall object to any attempt by any other state or international organization to treat the Moon Agreement as reflecting or otherwise expressing customary international law."[23]

Still, India and France, as signatories of the Moon Agreement are bound by the Vienna Convention on the Law of Treaties and so must not defeat the object and purpose of the agreement concerned (Article 18 of the VCLT). To the best of our knowledge neither of these states have indicated that they no longer wish to be party to the Moon Agreement which would absolve them from not undermining its object and purpose. This certainly includes the aspiration to avoid a first come first served regime of natural resource exploitation. Three of the parties to the Moon Agreement (Mexico, Saudi Arabia and Australia) have signed the Artemis Accords.[24] Whilst Australia does not perceive a conflict between the Accords and the Moon Agreement,[25] Saudi Arabia withdrew from the Moon Agreement with effect from 5 January 2024.[26]

A reconciliatory position may be forged if one ignores the U.S. national position and concentrates on the actual text of the Accords. This may be seen as remaining silent on commercial exploitation and only addressing *in situ* extraction and utilisation of resources for safe and sustainable space activities.

[23] Presidential Documents 2020: Sec. 2.

[24] UN Committee on the Peaceful Uses of Outer Space 2022.

[25] UNOOSA, Australia – Input to the Working Group on Legal Aspects of Space Resource Activities A/AC.105/C.2/2023/CRP.7, 20 March 2023, 6.

[26] Reference of the depositary notification: C.N.4.2023.TREATIES-XXIV.2, endnote 3 (https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXIV-2&chapter=24&clang=_en).

Such extraction, in our view, should be regarded as use of resources, permitted under Article I of the OST. This seems to be the interpretation of the Accords adopted by Australia[27] and France.[28]

A general exchange of views on potential legal models for regulating activities in the exploration, exploitation and utilisation of space resources took place within the Legal Subcommittee of UN COPUOS. France submitted a position that relied on both the Moon Agreement and the Outer Space Treaty, stressing that the Working Group on Legal Aspects of Space Resource Activities should "look first at the existing legal framework and particularly at the provisions that are widely accepted within the Committee" (OST, Rescue, Liability) but then went on to note that certain "principles and the travaux préparatoires of the 1979 [Moon Agreement] could be of interest to the work of the Group". These principles are applicable both in respect of "the use and processing of resources as life support (primarily concerning oxygen, nitrogen and water), construction or production of fuels, including extraction, processing and refining" and in the "[a]ctivities concerning the return of space resources to Earth".[29] In respect of all space resource activities, France invokes the Moon Agreement's principles and recalls its call for the rational management of resources and the duty to bear in mind the interests of present and future generations. In our view, this can be interpreted as a rejection of an exploitation policy based purely on national empowerment and oversight. In relation to the principles to be developed by the working group, France notes that the future

> "framework could help consolidate the existing international space law instruments, by adding principles that are adapted to space resource activities to them. Such principles could take into account problems related to the sustainable development of outer space activities, especially when it comes to the use of space resources. For example, it could include principles on multilateral and inclusive resource management, sustainable and responsible

[27] De Zwart et al. 2023: 157.

[28] UNOOSA, France – Input to the Working Group on Legal Aspects of Space Resource Activities A/AC.105/C.2/2023/CRP.12, 20 March 2023.

[29] UNOOSA 2023: 2–3.

> resource management, promotion of international collaboration, etc. More generally, this framework could help provide predictability and legal security at the regulatory level, both for the activities of States and their nationals."

Such a predictable framework "would help to ensure consistency of the legislation of the various States" and generate legal certainty that "can only be obtained if the applicable international framework is clarified (types of activities that could be conducted, coordination with other stakeholders, etc.)".[30]

The message is clear: space resource activities need new principles that adapt existing rules, but react to hitherto non-existent practices, including the operations of private ventures. The activities of these private actors as well as those of all states should be subjected to a multilateral, inclusive and sustainable resource management. The Moon and other celestial bodies should not become the new frontier, a new Wild West in outer space.

SAFETY ZONES AS A TOOL OF DECONFLICTION OF SPACE ACTIVITIES

The Accords aim to avoid harmful interference which might occur among states and companies operating on the Moon. Affirming Articles IX and XI of the OST, the Signatories commit to refrain from any intentional actions that may create harmful interference with each other's use of outer space and to provide each other with necessary information regarding the location and nature of space-based activities. A novel feature is the introduction of the idea of the "safety zone" that differs from the usual "keep out zones" such as those applied around the International Space Station.[31] In fact, safety zones enclosing parts of the freely *accessible res communis omnium usus* territories exist – for example, Article 60 of UNCLOS, which allows states to create a 500 m radius

[30] UNOOSA 2023: 6.

[31] Mallowan et al. 2021: 156.

safety zone around installations in the Exclusive Economic Zone on the sea, where otherwise the freedom of navigation ought to be unrestricted.

According to the Accords, a safety zone is an area in which "nominal operations of a relevant activity or an anomalous event could reasonably cause harmful interference" with the operation by the state declaring the safety zone or an actor licenced by the state.[32] The Signatories commit to respect reasonable safety zones to avoid harmful interference with operations under the Accords, including by providing prior notification to other states before conducting operations in a safety zone established pursuant to these Accords and thus coordinating with each other.[33] Moreover, the Accords stipulate that the concept of the safety zone is in line with the principle of free access to all areas of celestial bodies and all other provisions of the Outer Space Treaty in their use of safety zones.[34]

It is worth mentioning that the safety zone concept was first elaborated by the Hague Building Blocks project in 2019, which proposed safety zones as an effective tool to avoid harmful interference, in line with the principle of non-appropriation.[35] The Building Blocks assumed that timely public notice would be given before restricting access to the safety zone and such restriction would only be in place for a limited period of time.[36] Academics and states that have criticised the concept stress that the establishment of a safety zone, the size, scope and temporal dimension of which is indeterminate, may conflict with the "non-appropriation by use" requirement of the OST, especially if the zone's existence is limited only by the very vague terms of "nature of the operation" and reasonability but may entail an indeterminate length until the end of the operation.[37]

[32] Artemis Accords, Section 11, para. 6–7.
[33] Section 11, point 10.
[34] Section 11, point 11.
[35] Building Blocks for the Development of an International Framework on Space Resource Activities, November 2019, Article 11.3.
[36] Building Blocks for the Development of an International Framework on Space Resource Activities, November 2019, Article 11.3.
[37] See Mallowan et al. 2021; Artemis Accords, Section 11.

SPACE HERITAGE

Section 9 of the Accords prescribes that the Signatories preserve outer space heritage, which comprises "historically significant human or robotic landing sites, artifacts, spacecraft, and other evidence of activity on celestial bodies". This is not without precursors. NASA issued very detailed recommendations in 2011 on "How to Protect and Preserve the Historic and Scientific Value of U.S. Government Lunar Artifacts",[38] while the U.S. Congress adopted the One Small Step to Protect Human Heritage in Space Act[39] in 2020, noting that the lunar landing sites are the first archaeological sites with human activity that are not on Earth which provide evidence of the first achievements of humankind in the realm of space travel and exploration and contain artifacts and other evidence of human exploration activities that remain a potential source of cultural, historical, archaeological, anthropological, scientific, and engineering knowledge[40] that should not be interfered with and should be protected by the rules proposed in the NASA recommendations, including exclusion zones and prohibitions of close overflights.

One criticism of the preservation regime to emerge is that it may be seen as a "U.S.-led attempt to protect space artifacts as a subterfuge for securing indefinite rights over lunar territory, and perhaps even creating a mechanism to 'plant the flag' and claim additional territory in the future under the guise of preservation and protection of lunar sites and artifacts" – as noted by no other than the Office of Science and Technology Policy of the U.S. President in 2018.[41] However, that possibility aside, the idea of respecting the early traces of humanity on the Moon and other celestial bodies is certainly worth supporting.

[38] NASA 2011.
[39] *Public Law* 116–275, 134 Stat. 3359.
[40] *Public Law* 116–275, 134 Stat. 3359, Section 2 (7).
[41] Office of Science and Technology Policy 2018.

IN QUEST OF A GLOBAL SOLUTION OR THE BEGINNING OF FRAGMENTATION?

Some States, such as the Russian Federation, believe that the questions of the peaceful use of outer space should be dealt with at multilateral fora, namely within the United Nations Committee of Peaceful Use of Outer Space (UN COPUOS). On the initiative of eight members of the COPUOS, the Legal Subcommittee created a Working Group in 2022 including the United States and other signatories of the Accords with a view to developing a set of principles for space resource exploitation and recommending the next steps which might include the development of international norms. This is in line with the intention of the signatories of the Accords who, according to Section 10 "intend to use their experience under the Accords to contribute to multilateral efforts to further develop international practices and rules applicable to the extraction and utilization of space resources, including efforts at the COPUOS".

However, it seems to be clear that, despite the growing interest in this initiative, most of the states do not wish to urge the adoption of binding rules at this early phase but – as Philippe Baptiste, President of the French space agency CNES noted at the first meeting of the Signatories held in September 2022 "the principles discussed or the ideas discussed within the Artemis Accords should be the basis for later discussions in the U.N. framework".

One of the major risks of circumventing the UN COPUOS with such a non-binding but influential initiative is that it might lead to the polarisation of space law, fragmenting its interpretations and application.[42] The Chinese ILRS project, the annexed bilateral cooperation agreements and the recently founded International Lunar Research Station Cooperation Organization (ILRSCO) seem to verify this concern. On the other hand, it is also clear that it has become unlikely that a consensus could be reached within the UN COPUOS on controversial issues such as the interpretation of Articles I and II of the OST in the near future. Therefore, the Accords might be a catalyst

[42] Report of the Legal Subcommittee on its sixty-second session, held in Vienna from 20 to 31 March 2023, A/AC.105/1285, para. 171.

which – through further debates – leads to a solution that is acceptable to all the UN COPUOS member states. The fact that the working group on space resources was founded just after the announcement of the Accords might be a sign of that.

CONCLUSION

The Artemis Accords, despite being ostensibly only a political statement, generated intense debate in the international community. While a positive outcome of the Accords is that they sparked discussion under the auspices of the UN on the legal aspects of space resource exploitation, they also face criticism for turning away from multilateralism, which can lead to the fragmentation of international space law. Another source of ambivalence lies in the duality of confirming several basic principles of international space law while at the same time adopting the particular U.S. interpretation of Article II of the OST allowing and promoting commercial exploitation of space resources without assuring the guarantees foreseen by the Moon Agreement. Some may note the absence of principles on the protection of the space environment beyond the issue of space debris and the protection of landing sites, the question of liability for damages caused during future missions or a dialogue with the ideas of the common heritage of humankind. While the Signatories explicitly aim to use the experience gained in their cooperation in the work undertaken in the UN COPUOS, there is no indication in the Accords that a more detailed, binding legal regime would be necessary to regulate the exploration and exploitation of the celestial bodies. Although we might agree that the adoption of a robust binding legal regime would be premature at this stage, it seems to be an inevitable step to ensure that the future exploitation of this province of all mankind is carried out in the interest of all countries. Indeed, this goal – as a principle – could have been mentioned in the Accords. In short, a challenger has arrived. Now it is the task of the solid system of institutions and actors with a long-term perspective both on the past and the future to accommodate it.

REFERENCES

Bartóki-Gönczy, Balázs – Nagy, Boldizsár (2023): The Artemis Accords. *International Legal Materials,* 62(5), 888–898. Online: https://doi.org/10.1017/ilm.2023.17

Delplano, Rossana (2021): The Artemis Accords: Evolution or Revolution in International Space Law? *International and Comparative Law Quarterly,* 70(3), 799–819. Online: https://doi.org/10.1017/S0020589321000142

De Zwart, Melissa – Henderson, Stacey – Neumann, Michelle (2023): Space Resource Activities and the Evolution of International Space Law. *Acta Astronautica,* 211, 155–162. Online: https://doi.org/10.1016/j.actaastro.2023.06.009

Mallowan, Lucas – Rapp, Lucien – Topka, Maria (2021): Reinventing Treaty Compliant "Safety Zones" in the Context of Space Sustainability. *Journal of Space Safety Engineering,* 8(2), 155–166. Online: https://doi.org/10.1016/j.jsse.2021.05.001

NASA (2011): *NASA's Recommendations to Space-Faring Entities: How to Protect and Preserve the Historic and Scientific Value of U.S. Government Lunar Artifacts.* Online: https://www.nasa.gov/wp-content/uploads/2017/10/617743main_nasa-usg_lunar_historic_sites_reva-508.pdf?emrc=44e0c8

NASA (2020): *Artemis Plan. NASA's Lunar Exploration. Program Overview.* Online: https://www.nasa.gov/wp-content/uploads/2020/12/artemis_plan-20200921.pdf?emrc=f43185

Office of Science and Technology Policy (2018): *Protecting and Preserving Apollo Program Lunar Landing Sites and Artifacts in Accordance with the NASA Transition Authorization Act of 2017.* Washington, 2018. Online: https://csps.aerospace.org/sites/default/files/2021-08/Protecting%20Lunar%20Sites%20OSTP%20report%20Mar18.pdf

Presidential Documents (2020): Executive Order 13914 of April 6, 2020 Encouraging International Support for the Recovery and Use of Space Resources. *Federal Register,* 85(70). Online: https://www.govinfo.gov/content/pkg/FR-2020-04-10/pdf/2020-07800.pdf

The White House (2020): *President Donald J. Trump is Encouraging International Support for the Recovery and Use of Space Resources.* Online: https://trumpwhitehouse.archives.gov/wp-content/uploads/2020/04/Fact-Sheet-on-EO-Encouraging-International-Support-for-the-Recovery-and-Use-of-Space-Resources.pdf

TRONCHETTI, Fabio (2015): Legal Aspects of Space Resource Utilization. In VON DER DUNK, Frans (ed.): *Handbook of Space Law.* Cheltenham: Edward Elgar, 769–813. Online: https://doi.org/10.4337/9781781000366.00023

UNOOSA (2023): *National Space Law.* Online: https://www.unoosa.org/oosa/en/ourwork/spacelaw/nationalspacelaw/index.html

VERGUN, David (2020): NASA, DoD Agree to Collaborate More Closely in Space. *DoD News,* 22 September 2020. Online: https://www.defense.gov/News/News-Stories/Article/Article/2356511/nasa-dod-agree-to-collaborate-more-closely-in-space/#:~:text=The%20agreement%20commits%20DOD%20and%20NASA%20to%20broad,operations%20in%20space%2C%20scientific%20research%20and%20planetary%20defense