

A Brief Argument for a Near Space Exclusive Economic Zone

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ABSTRACT

The Outer Space Treaty of 1967, the primary governing document for space exploration, was established in a very different time; the geopolitical landscape that gave rise to the OST no longer reflects today's space environment. This is especially true in light of the rise of commercial space companies, the growing potential for resource extraction, and the sharply increased presence of military assets in orbit. This paper argues that, due to the limitations and vagueness of the Outer Space Treaty, especially its prohibition on state appropriation of territory in space and its lack of guidance on economic development, near-space requires a new legal framework. Drawing in large part on the concept of exclusive economic zones in maritime law under the United Nations Convention on the Law of the Sea of 1982, this paper proposes the creation of near-space exclusive economic zones. This would grant space-faring nations special economic rights over the area between their navigable airspace and the Karman line, without imposing full sovereignty over that area. Using customary international law principles such as *rebus sic stantibus* ("as things stand") and the ancient legal doctrine of *cuius*

est solum (“whoever’s is the soil”), this new framework can address security concerns and international cooperation, encourage economic development, and ensure the free passage of near-space traffic when appropriate. The proposed system will deter conflicts over resources, maintain a structured approach to near-space, and encourage a comprehensive, modern approach to near-space administration that more realistically reflects current geopolitical and technological realities.

Keywords: Outer Space Treaty, artemis Accords, near space, pseudo satellites, exclusive economic zone, karman line, low earth orbit

Un breve argumento a favor de una zona económica exclusiva cercana al espacio

RESUMEN

El Tratado del Espacio Ultraterrestre de 1967, principal documento rector de la exploración espacial, se estableció en una época muy distinta; el panorama geopolítico que dio origen al Tratado ya no refleja el entorno espacial actual. Esto es especialmente cierto a la luz del auge de las empresas espaciales comerciales, el creciente potencial de extracción de recursos y el marcado aumento de la presencia de activos militares en órbita. Este documento argumenta que, debido a las limitaciones y la ambigüedad del Tratado del Espacio Ultraterrestre, en particular su prohibición de la apropiación estatal de territorio en el espacio y su falta de directrices sobre el desarrollo económico, el espacio cercano requiere un nuevo marco jurídico. Inspirándose en gran medida en el concepto de zonas económicas exclusivas del derecho marítimo, según la Convención de las Naciones Unidas sobre el Derecho del Mar de 1982, este documento propone la creación de zonas económicas exclusivas en el espacio cercano. Esto otorgaría a las naciones con capacidad espacial derechos económicos especiales sobre el área comprendida entre su espacio aéreo navegable y la línea de Kármán, sin imponerles plena soberanía sobre dicha área. Utilizando principios del derecho internacional consuetudinario como el *rebus sic stantibus* («tal como están las cosas») y la antigua doctrina jurídica del *cuius est solum* («de quien es el suelo»), este nuevo marco puede abordar las preocupaciones de seguridad y la cooperación internacional, fomentar el desarrollo económico y garantizar el libre tránsito del tráfico espacial cercano cuando sea apropiado. El sistema propuesto disuadirá los conflictos por los recursos, mantendrá un enfoque

estructurado del espacio cercano y promoverá un enfoque integral y moderno de su administración que refleje de manera más realista las realidades geopolíticas y tecnológicas actuales.

Palabras clave: Tratado del Espacio Ultraterrestre, Acuerdos de Artemis, espacio cercano, pseudosatélites, zona económica exclusiva, línea de Kármán, órbita terrestre baja

关于设立近空间专属经济区的简要论证

摘要

作为规范太空探索的主要法律文件,《1967年外层空间条约》(简称《外空条约》)制定于一个截然不同的时代;当年促成该条约的地缘政治格局已无法反映当今的太空环境。随着商业航天公司的兴起、资源开采潜力的增长以及轨道上军事资产的急剧增加,这一点尤为明显。本文认为,鉴于《外空条约》存在局限性与模糊之处——特别是关于禁止国家占有太空领土的规定以及缺乏针对经济活动的指导——近空间领域亟需建立一套新的法律框架。本文主要借鉴《联合国海洋法公约》中关于“专属经济区”的法律概念,提出设立“近空间专属经济区”的构想。该机制将赋予航天国家对其可航行空域与卡门线(Kármán line)之间区域的特殊经济权利,同时不要求其对该区域行使完全主权。通过运用“情势变迁”(rebus sic stantibus)等国际习惯法原则以及古老的“土地所有权延伸至上空”(cuius est solum)法律学说,这一新框架能够兼顾安全关切与国际合作,促进经济发展,并在适当时确保近空间交通的自由通行。拟议的体系将有助于遏制资源争端,维护近空间活动的有序性,并推动一种更具综合性与现代化的近空间管理模式,从而更切合当前的地缘政治与技术现实。

关键词:《外空条约》,《阿尔忒弥斯协定》,近空间,伪卫星,专属经济区,卡门线,近地轨道

Introduction

This paper makes an argument for the establishment of exclusive economic zones in near space, which would be modeled after the United Nations Convention on the

Law of the Sea, to address the current shortcomings and gaps in the outer space treaty in light of today's rapid militarization of outer space, as well as recent advancements in technology. The Outer Space Treaty of 1967 (OST) is the original legal instrument govern-

ing outer space activities. It was drafted at a time when the only two primary nations active in space were the Soviet Union and the United States. Officially designated as the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, the OST was promoted by the United Nations and continues to serve as the primary basis for international space law. When drafted, its purpose was to prevent conflict, ensure that outer space remained peaceful, and prevent potential conflicts. The OST characterizes outer space as *res communis*, meaning a thing held in common, rather than *res nullius*, which belongs to no one. This type of classification mirrors that of the legal framework of the high seas (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], 1967; United Nations Convention on the Law of the Sea [UNCLOS], 1982). The OST reflects the concerns that dominated the Cold War and the era of nuclear proliferation. Its core principles focused on preventing claims to national sovereignty in space and the proliferation of weapons of mass destruction in orbit above Earth.

In addition to the Outer Space Treaty of 1967, several other bodies of international law form the framework of space law. Some of these works are the Rescue Agreement of 1968, the Registration Convention of 1976, the Liability Convention of 1972, and the Moon Agreement of 1979. The Rescue Agreement discusses an expansion

of the outer space treaty by requiring states to render aid to astronauts who are in distress and facilitating their return to their launching state (Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space [Rescue Agreement], 1968). Under the Liability Convention, launching states have a responsibility to take care of damages resulting from their space objects. This framework delineates a liability standard for states; it imposes strict liability for surface damage and a fault-based liability for damages caused in space (Convention on International Liability for Damage Caused by Space Objects [Liability Convention], 1972).

The Registration Convention requires launching states to keep records of objects they have sent into space to facilitate coordination and transparency for satellites (Convention on Registration of Objects Launched into Outer Space [Registration Convention], 1975). The most controversial of the space treaties is the Moon Agreement. This document declares that the moon and other celestial bodies are part of the common heritage of mankind and attempts to set rules to govern resource extraction on celestial bodies (Agreement Governing the Activities of States on the Moon and Other Celestial Bodies [Moon Agreement], 1979). The treaty, however, has not been widely ratified by the space-faring countries; notably, Russia, China, and the United States have declined to sign. These treaties aim to expand the body of law governing space. Still, given significant gaps and ambiguities, as well as inconsistent

ratification by space-faring states, this patchwork of international law is largely insufficient. These documents are increasingly ill-equipped to handle the modern realities of national security and space-based commerce in industry.

The most important provision of the OST is arguably Article 2, which states that “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” (Outer Space Treaty, 1967, Art. II). This provision was designed to prevent countries from claiming territorial sovereignty and, perhaps, even simple ownership of space objects. This is a sharp contrast from the prevailing jurisprudence surrounding Earth’s land and seas. Unlike the sovereignty doctrines in maritime or aviation law, which permit countries to control their immediate surroundings, the OST treats space as a global commons equally available to all nations and owned by none. This article was essential in stopping territorial disputes among the Cold War superpowers. However, it now leaves us with legal gray areas as private corporations seek to develop space economically and extract its vast resources for the benefit of mankind.

The OST also placed great emphasis on the peaceful exploration of space. Article IV of the OST banned the storage of nuclear weapons and any other type of weapon of mass destruction on the moon, any other celestial bodies, or suspended in Earth’s orbit (Outer Space Treaty, 1967, Art. IV). Despite

this, it did not prohibit all military activity in outer space. It allowed states to deploy reconnaissance satellites, missile defense systems, and other space-based military capabilities. Ambiguous language in the treaty on military activity has allowed several nations, such as the United States and the People’s Republic of China, to exploit this perceived loophole and go as far as to establish dedicated space military branches (Loh, 2024).

The underlying principle of the OST is a cooperative, non-exploitative view of space exploration. Article I states that “[t]he exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind” (Outer Space Treaty, 1967, art. I). Hypothetically, this article would ensure the benefits of space exploration were available to all nations, not just those possessing space-faring technology. In reality, though, the serious benefits of access to outer space are monopolized by a small handful of nations and private corporations based within them. This begs the question of whether the treaty’s core purpose remains enforceable and relevant in the age of commercial space travel and the coming age of space resource extraction.

The OST also discusses environmental responsibility and national liability. Under Article VI, countries agree to take responsibility for their governments’ actions as well as those of their

private citizens. This means that nations must administer and supervise commercial space travel conducted by their nation's corporations (Outer Space Treaty, 1967, Art. VI). Article IX also requires countries to refrain from the contamination of celestial bodies and to prevent their space activities from becoming harmful interferences to other parties in space (Outer Space Treaty, 1967, Art. IX). Despite this, the growing amount of space debris and the anticipation of future resource extraction indicate that effective enforcement of these rules is unlikely under the antiquated OST.

While the OST has thus far prevented space-based military conflicts and helped establish international legal norms in space, its general vagueness and obsolescence have become increasingly evident. The OST was imagined in a world where only a handful of countries had space-faring capabilities, and the notion of corporate spacefaring was a science-fiction concept. With the growth of the commercial space industry and the development of new technologies driven by countries seeking military strategic advantages in outer and near space, the limitations of the OST have become a serious concern. Without proper rules for economic development, property rights, or firm enforcement mechanisms, the treaty's usefulness in governing near space in the 21st century is dubious. Policymakers and legal academics have begun to question the need for a modernized framework that more efficiently balances the interests of private business, sovereignty, national security, and international cooperation (Stuart, 2017).

Shortcomings Of The OST

The *travaux préparatoires* of the Outer Space Treaty indicate a clear intent by its drafters to create a legal regime that was meant to preclude the national acquisition of extraterrestrial land and prevent Cold War-style militarization without appreciating the future complexities of commercial space ventures. The treaty draws on the 1963 General Assembly Declaration of legal principles by taking the position that outer space is meant to be free for exploration and to be used by all states without being subject to national appropriation (Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, 1963). The legal boundary between national airspace and outer space is not presently well defined under international law. The Outer Space Treaty does not specify where outer space begins, and leaves serious ambiguity over the status of our atmosphere between approximately 20 and 100 kilometers in altitude.

The most commonly used boundary is the Kármán line, which sits at 100 kilometers and has been supported by the Fédération Aéronautique Internationale (FAI) as the limit where theoretical conventional methods of flight are no longer feasible (Fédération Aéronautique Internationale [FAI], n.d.). The United States Government uses the 50-mile line (~80 km) for official purposes (Federal Aviation Administration [FAA], 2021). As a result of the gap in definitions, the limit of near space could be interpreted differently

by different nations, which has serious implications for the non-appropriations clause of the Outer Space Treaty, which governs claiming territory in space (Outer Space Treaty, 1967, Art. II). To avoid legal uncertainty and potential conflict in the decades to come, near space should be expressly delineated as a separate domain, with its own set of national rights through the use of exclusive economic zones (EEZs). This clarification would help prevent challenges that future economic and military claims in near space could occur if analyzed under the appropriation clause of the OST.

Space technology has undergone a drastic transformation since the signing of the OST in 1967, shifting from being dominated solely by government agencies to a modern, well-developed commercial space economy driven by the search for resources, space tourism by the ultra-wealthy, and military expansion. When the OST was drafted, space activity was primarily the realm of two countries, the Soviet Union and the United States, largely motivated by national pride and also military considerations. Rocket technology still relied on costly, inefficient single-use designs, making access to outer space prohibitively expensive. Satellites used then were comparatively primitive and primarily functioned as reconnaissance assets, weather forecasting machines, and telecommunication assets (NASA National Space Science Data Center [NSSDC], 2012). The commercial space industry had not matured yet and was not a dominant participant in the space race. While the concepts of space min-

ing and colonization seem nearly imminent now in the next few decades, and reusable rockets and private satellites have become commonplace, when the OST was drafted, all of these concepts would have been considered to be in the realm of science fiction, such as *Star Trek* or *Gundam*. Although fictional, the 1979 Japanese animated series *Mobile Suit Gundam* provides a valuable lens for examining the legal and geopolitical frictions that may arise in near space and low Earth orbit. The series offers a cautionary portrayal of near-space economic and military catastrophe resulting from questions of ownership in sovereignty, something not properly addressed by our current legal framework.

The space industry has been revolutionized by the rise of large private aerospace companies that regularly travel to space, such as Virgin Galactic, Blue Origin, and SpaceX. These aerospace companies have had significant breakthroughs in rocket technology and have significantly decreased the cost of space travel thanks to reusable rockets (*Wall Street Journal*, 2024). SpaceX's Falcon 9 ship has lowered the price per kilogram of launching material into space to a mere \$2,720, and the company hopes to decrease that cost to as low as \$20 per kilogram in the future with its new "Starship" model (Scanway Space, n.d.). This radical shift in access to space has enabled the planning of future space missions farther from the International Space Station. It has even raised the possibility of a manned flight to Mars in our lifetimes.

An additional important development since 1967 is the very real possibility of space resource extraction, such as mining on celestial bodies. While the OST prohibits claims of sovereignty to celestial bodies, there is no outright prohibition on whether private companies can claim material ownership of extracted resources from space (Outer Space Treaty, 1967, Art. II). Countries such as the United States and Luxembourg have passed laws in the last decade allowing their companies to own and derive profits from resources extracted from outer space, likely challenging the original assumptions of the OST's authors (Loi du 20 juillet 2017 sur l'exploration et l'utilisation des ressources de l'espace [Luxembourg Space Resources Law], 2017; U.S. Commercial Space Launch Competitiveness Act, 2015). The Artemis Accords, a NASA-sponsored international agreement with 53 signatory nations, has also encouraged resource extraction on the moon, which raises the question of whether the OST is still sufficient or realistic (Artemis Accords, 2020).

Furthermore, since 1967, there has been a drastic increase in the militarization of space. Space was primarily used for reconnaissance and scientific purposes at the time of the OST, with both the Soviet Union and the United States using orbital surveillance to support their military strategies. Unlike the Cold War, space has become an active military domain, demonstrated by the creation of the United States Space Force and the Chinese People's Liberation Army's equivalent (Space Policy Directive-4, 2019; Ni & Gill, 2019).

Contemporary conflicts now incorporate cyberattacks and the complex use of satellites to support kinetic attacks on Earth, rendering the OST's peaceful aspirations largely unfulfilled.

The most noticeable change since 1967 is how common human space flight has become and how it has transitioned from being essentially the domain of governments to that of private commercial industries. At the time of the OST, astronauts were civil servants and military members, but today, private space tourism has given rise to an entirely new class of astronauts, if they can be called that. Companies such as Virgin Galactic, SpaceX, and Blue Origin have been steadily sending private citizens into varying depths of space while NASA's Artemis program is working to establish a manned human space station on the moon (NASA, 2024). All the while, SpaceX is making strides towards interplanetary travel in our lifetimes.

These astounding advancements directly challenge the underlying geopolitical and technical context in which the OST framework was created. The era of idealizing space as a peaceful domain of international cooperation free from the pressures of commercial economic exploitation and private ownership has long since passed. A new class of commercial spacefarers, aspiring future space miners, and dedicated military space forces have raised many legal questions that the treaty did not adequately address. Policymakers and scholars must ask whether a new framework for near space and low Earth orbit

could provide a more effective roadmap for regulating national and commercial interests. Space law must evolve to reflect the technological, economic, and geopolitical realities that shape the 21st century.

The Need for Change

The doctrine of *rebus sic stantibus*, codified in Article 62 of the Vienna Convention on the Law of Treaties, provides a compelling legal argument for reconsidering the status of the OST in light of fundamental changes in technology, commerce, and military operations (Vienna Convention on the Law of Treaties [VCLT], 1969, art. 62). *Rebus sic stantibus* is a doctrine that allows a treaty to be terminated or suspended when the underlying facts that gave rise to the treaty have changed radically. Although the United States has not ratified the VCLT, the relevant provision, *rebus sic stantibus*, is considered customary international law (CIL). Its status as customary international law has been upheld by the International Court of Justice (ICJ) in its opinion in the Case Concerning the Gabčíkovo-Nagymaros Project. The ICJ held in that case that *rebus sic stantibus* was a possible remedy under CIL in a dispute between Hungary and Czechoslovakia over Hungary's breach of an agreement to build a dam on the Danube River (Case Concerning the Gabčíkovo-Nagymaros Project, 1997).

Additionally, in the Case Concerning Fisheries Jurisdiction (United Kingdom v. Iceland), the court stated that international law admits that

a fundamental change in the circumstances which determined the parties to accept a treaty, if it has resulted in a radical transformation of the extent of the obligations imposed by it, may under certain conditions afford the party affected a ground for invoking the termination or suspension of the treaty, and that this principle has been embodied in Article 62 of the Vienna Convention on the Law of Treaties, which may in many respects be considered a codification of existing customary law on the subject (Case Concerning Fisheries Jurisdiction, 1973, para. 36). This precedent confirms that states may still invoke *rebus sic stantibus* to reassess outdated treaties when the underlying conditions that necessitated them have changed significantly, even if they are not signatories to the VCLT.

Article XVI of the Outer Space Treaty permits any party to withdraw, subject to a one-year notice period and notification to the other signatories. This withdrawal mechanism alone, however, is not enough to solidify a nation's future claims to near space or other low Earth orbit in the event other nations protest (Outer Space Treaty, 1967, Art. XVI). Nations seeking to stake claims in near space should assert their rights under the doctrine of *rebus sic stantibus* under Article 62 of the Vienna Convention on the Law of Treaties. This doctrine empowers nations to declare that the material conditions that existed when a treaty was entered into have changed fundamentally as a reason for voiding their obligations under the treaty (VCLT, 1969, Art. 62). This would give nations seeking control over

their near space two mechanisms to declare their departure from the OST, as well as a path to explicitly delineate the separation between near space and outer space. By stating that the material conditions have changed and invoking *rebus sic stantibus* and also laying out a new definition of near space and outer space, these spacefaring nations will break the current general practice of how space is treated and prevent future development of customary international law that might develop regarding near space that is unfavorable to spacefaring nations. The possibility of the OST's provisions on space as a global commons for humanity and the prohibition of imposing sovereignty over outer space could severely harm the national security and economic freedom of spacefaring nations if these provisions begin to be applied to what this paper has proposed as near space by means of OST signatory nations treating it as outer space and creating CIL to that effect (North Sea Continental Shelf Cases, 1969, paras. 70-74; Outer Space Treaty, 1967, Art. II). For these reasons, explicit repudiation of the treaty under *rebus sic stantibus*, a withdrawal under the treaty's own mechanism, and a standing statement of reservation against future attempts to regulate near space as part of CIL are necessary to preserve the future national security interest of the United States and other spacefaring nations.

The absence of a clear definition of what constitutes outer space vs. near space, the rise of commercial spacefaring, and the rapid militarization of space all represent unanticipated and funda-

mental changes from the underlying assumptions and material conditions that inspired the OST in 1967. The OST's non-appropriation doctrine found in Article II, which prohibits claiming sovereignty over space, is already being *de facto*, if not *de jure*, undermined by national legislation that permits private claims to extracted space resources. The U.S. Commercial Space Launch Competitiveness Act (2015) and Luxembourg's 2017 space mining law specifically recognize private ownership over resources in space, concepts that were obviously not intended by the OST (Luxembourg Space Resources Law, 2017; U.S. Commercial Space Launch Competitiveness Act, 2015). In a similar vein, the Artemis Accords not only support the extraction of space resources, but they also support a nation's ability to declare "safe zones" on the moon that would allow a nation to exclude another nation from that zone (Artemis Accords, 2020, §§ 10–11). While the Artemis Accords claim not to contradict the OST in the legal sense, and under many reasonable interpretations do not, they do likely run afoul of the spirit of the OST. The ambiguity left by the OST has ultimately driven countries to fill the legal vacuum with domestic laws and accords.

The Artemis Accords are a set of non-binding aspirational political principles that were set forth by the United States in 2020 and now agreed to by more than 30 countries. They reiterate many principles of the Outer Space Treaty, but diverge from that treaty functionally (Artemis Accords, 2020). While the Artemis Accords affirm cer-

tain obligations already created under the OST, like the principles of peaceful use, transparency, and international cooperation, they also provide more practical frameworks for the conduct of space activities such as the introduction of “safety zones” (Artemis Accords, 2020, §§ 10–11). Safety zones are spaces around lunar or orbital facilities attached to geographic locations where states can be free from foreign interference. While described as transparency and deconfliction tools, safety zones essentially operate as *de facto* claims of exclusive use. This is a technical distinction from national appropriation, which is banned under Article II of the OST “by any other means” (Outer Space Treaty, 1967, Art. II). While the Artemis Accords do not directly assert sovereignty or the appropriation of territory, their cooperative nature keeps them well within the spirit of soft law. With that in mind, the Accords could be seen as the possible reference for the next step in OST-era space law theory. Commercial entities and state actors are already placing national infrastructure in space, underscoring the need for a clear framework. This train of thought closely tracks this paper’s intent to suggest a near-space EEZ. Both are attempts to bridge the gap between OST-era legal theory and what is physically happening or likely to happen in the 21st century. Space actors will likely need some form of functional control without asserting sovereignty. As such, the Artemis Accords complement this paper’s point that the OST is quickly becoming inadequate for responsibly managing space activities, and new le-

gal and policy tools will be required to address resource extraction, physical control, and the private management of objects and space.

The rapid militarization of space also seems to justify examining the doctrine of *rebus sic stantibus*. While Article IV of the OST bars weapons of mass destruction and nuclear weapons in outer space, it does not actually prohibit conventional military activities and weapons. This has given rise to the creation of national space military branches, the development of space-based weapon systems, geopolitical rivalries, and Earth’s orbit (Azcárate Ortega, 2021). China’s growing military space presence, its aggressive approach to space-based weapons research, and the development of the United States’ Space Force all show that the world has fundamentally changed from the global geopolitical reality that underpinned the OST’s ambitions. The OST has failed to prevent this militarization and to address these developments actively; a new framework is required.

A New System

A more appropriate legal framework for the governance of near space would be one analogous to the Exclusive Economic Zone (EEZ) maritime law principle (UNCLOS, 1982, Pt. V). A system like this would permit countries to exercise economic control over their near space while also ensuring free passage for other nations. This model provides a nuanced and realistic balance among pseudo-sovereignty, economic realities, national

security, and addressing the legal vacuum created by the OST's ambiguities. The United Nations Convention on the Law of the Sea (UNCLOS) provides a valuable precedent for regulating a shared global domain. The UNCLOS grants coastal nations the right to an exclusive economic zone that extends 200 nautical miles from their shores, where countries have exclusive rights to benefit from their natural resources while ensuring that nations cannot restrict overflight and sea navigation from other countries (UNCLOS, 1982, Pt. V, Arts. 56-58). This framework has ensured that countries retain the economic benefits of their coastlines while maintaining a shared space where others can travel freely.

The UNCLOS of 1982 grants nations sovereign rights for exploring and exploiting the resources and economic value of their coastal regions by incorporating them into a nation's "exclusive economic zone" (UNCLOS, 1982, Art. 56(1)(a)). The rights granted to these coastal nations cover living resources like fish and other marine life, as well as non-living resources found in the seabed, and jurisdiction over environmental protection and scientific research (UNCLOS, 1982, Art. 56(1)(b)). These EEZs established by the UNCLOS are not territories with full sovereignty of the coastal state, but rather an expanded bundle of rights for the coastal nation that also grants other nations the right to innocent passage (UNCLOS, 1982, Art. 58). When the OST was drafted, certain parts of it were crafted quite similarly to the UNCLOS, specifically in treating outer space similarly to the high seas

for purposes of freedom of access and non-appropriation (Outer Space Treaty, 1967, Arts. I-II). This analogy only goes so far, however. There is no natural resource in near space to exploit; rather, near space itself is the natural resource in the form of high-altitude real estate. The ability to control and exploit near space above one's own nation is crucial. It will become increasingly important in the coming decades for national security and telecommunications, driven by improvements in pseudo satellite technology and the growing popularity of satellite-based internet and telephone services. The creation of an EEZ for near space would protect nations' future telecommunications interests and ensure that important physical space remains under the control of the nation that owns it.

The premise of EEZs under UNCLOS is that coastal nations have economic rights over the seas adjacent to their coasts. Regardless of technological sophistication, all nations can make some use of their coastlines. However, near space requires complex aerospace assets and significant investment to exploit. If EEZ rights were granted to all nations, rather than only to those able to use near space, it would hamper economic growth and lead to hollow, unenforceable claims. Similarly, a nation obviously has the right to mine its earth as deep as possible, but no claim by a nation to the Earth's core can be viewed as colorable, despite the Earth's core being beneath them. Without the ability to reach the plane of a resource in depth or height, a nation cannot truly exert sovereignty over it. Therefore, rights

to near space should be contingent on a nation's ability to access near space. The alternative would hinder spacefaring nations' ability to expand navigation lanes and discourage investment in near space through overly restrictive "phantom claims" by non-spacefaring nations.

Absent a comprehensive treaty covering the use of near space, national rights would need to be enforced primarily through unilateral means. Such enforcement would most logically follow a model analogous to a coast guard, where nations patrol and inspect their near space for foreign exploitation by high-altitude balloons or winged solar pseudo satellites. It is conceivable that nations could attempt to enforce claims against foreign states through conventional means, such as a permanent tribunal or a court of arbitration, similar to the framework set out in Article 287 of UNCLOS. Alternatively, in the absence of a comprehensive treaty, states could attempt to settle disputes in the International Court of Justice as near-space customs become customary international law through practice.

Given that there is currently no consensus in international law on what constitutes near space, definitions vary across jurisdictions and contexts. The FAI has taken the position informally that space begins at the Kármán line, which is 100 km above sea level. This height is based on the altitude where conventional methods of aerodynamic lift are no longer feasible (FAI, n.d.). The United States takes a contrasting approach, having adopted the defini-

tion of near space as "the region extending from low Earth orbit to geosynchronous orbit," which essentially closes the conceptual boundary between outer space and lower orbital bands (42 U.S.C. § 18302(7), 2021). However, for practical military and commercial purposes, the most ambiguous zone extends from approximately 20 to 60 km above Earth's surface. This band is below true orbital flight but above controlled airspace. Inside this band, various types of pseudo-satellite technology can operate and emulate geostationary orbit, allowing for persistent surveillance as well as communications (Airbus, n.d.). These pseudo-satellite platforms often remain airborne for months or longer and operate at altitudes above normal air traffic control jurisdiction. Despite this, they are too low to be considered space objects under current international law (Convention on International Civil Aviation, 1944; Outer Space Treaty, 1967, Arts. I–II). This paper proposes that a near-space exclusive economic zone encompass the range between 20 and 100 km to govern the band most likely to support pseudo-satellite operations, both currently and as technology advances. Incorporation of this band within the exclusive economic zone is necessary to ensure states can keep their sovereignty and regulatory authority in this domain as these loitering systems grow more common and sophisticated (Azcárate Ortega, 2021).

A similar system could be applied to near space, particularly the region immediately above national airspace up to the Kármán Line (100 km), where the Outer Space Treaty currently fails

to establish clear jurisdictional rights. A system such as this was previously proposed by several equatorial nations in the Bogotá Declaration of 1976; they argued that geostationary orbital positions were natural resources (Bogotá Declaration, 1976). However, the largely disregarded Bogotá Declaration boldly attempted to claim 35,871 km above sea level (Bogotá Declaration, 1976, Art. I). Realistically, a claim of an EEZ would expand no further than the Kármán line. Under this model, nations would have the right to economically exploit near space above their territory, such as using pseudo-satellites, future routes for commercial spacecraft to enter and exit orbit, and space tourism infrastructure, without claiming sovereignty over the region. Other nations and private actors would be free to pass through or conduct non-economic activities, much like the principle of innocent passage in maritime EEZs. However, only nations with demonstrated space-faring capabilities would logically have a right to claim an EEZ in their near space, as only nations with a shoreline have a right to a maritime EEZ.

This concept is derived from the principle of *cuius est solum, eius est usque ad coelum et ad inferos*, which historically granted landowners control over the airspace above their land, limited only by practical and technological realities (Blackstone, 1765). The common law principle of *cuius est solum, eius est usque ad coelum et ad inferos*, affirmed in *Bury v. Pope* (1587) and expounded by Blackstone and Coke, held that a landowner's property extended vertically upwards to the

heavens and downwards to the depths of the Earth (Blackstone, 1765; *Bury v. Pope*, 1587; Coke, 1684). Similarly, the United States, China, Russia, and other space-faring nations must be able to economically control and benefit from their territory *usque ad coelum*, up to the heavens.

This would not necessarily conflict with a liberal interpretation of the OST if one considered near-space distinct from outer space. Even if one were to interpret this area as outer space, under this model, a nation's "near-space EEZ" would not be a claim of sovereignty (which some would interpret as a violation of Article II of the OST) but rather an economic right based on the ability to take advantage of one's near space effectively. Similarly, UNCLOS requires a nation to have a coast to have an EEZ; this ensures that only technologically advanced nations with active space-faring capabilities could claim economic rights over near space above their territory. This would prevent nations with no space-faring capability from attempting to make economic claims over their near space for purely geopolitical leverage, similar to how landlocked countries cannot claim a maritime EEZ of their own.

This proposed system would address several issues arising from the current legal vacuum in near space. It would encourage investment in space technology and would benefit nations with space-faring capability and the ability to claim economic rights over their territory. It would also prevent potential legal conflicts over the place-

ment of near-Earth pseudo-satellites, space tourism operations, future near-space developments, and technologies we have yet to anticipate by directly defining economic authority over portions of near space without ascribing to them all the privileges of sovereignty. It will also guarantee free passage through claimed space for non-economic purposes. This maintains the spirit of international cooperation and will help prevent the possible future chaos of a near-space land grab.

Conclusion

While the OST was crucial in preventing early conflicts in space between the Soviet Union and the U.S., it is no longer a viable framework for the modern realities of space commerce, tourism, militarization, and national security. The treaty was drafted under the idealized notion that space would be a peaceful, non-commercial domain for human exploration of the cosmos, accessible to all and owned by none. However, the astonishingly rapid growth of private space-faring companies, the emergence of likely future markets for space resource extraction, and the drastic militarization of space have fundamentally altered the strategic landscape of space. These unforeseen developments justify invoking *rebus sic stantibus* to supplement, if not outright modify or replace, the OST in its current form (Case Concerning the Gabčíkovo-Nagymaros Project, 1997).

A maritime-inspired legal framework grounded in the UNCLOS con-

cept of EEZs offers a more realistic and enforceable approach to near-space governance. This model would allow space-faring nations to establish economic jurisdiction over near space above their territory while ensuring freedom of passage for others. This strategy balances national interests with international cooperation and will help to prevent legal conflicts over the commercial use of space. Furthermore, applying the doctrine of *cuius est solum, eius est usque ad coelum et ad inferos* as a legal foundation for economic rights in near space ensures that only nations with the actual ability to utilize space would be entitled to exclusive economic zones, similar to how the UNCLOS grants coastal states exclusive rights over their maritime resources.

By adopting this framework, the international community can modernize space governance to our reality while maintaining the spirit of international cooperation envisioned by our predecessors in the OST. Preventing legal chaos by establishing clear rules for near-space economic activity will encourage investment and innovation in the commercial space sector and give nations a structured approach to resolving disputes. As nations and private actors continue to push the boundaries of space technology, a new legal framework is both necessary and inevitable. The EEZ model for near space represents the most viable path forward, ensuring that space remains a domain of progress, security, and equitable economic opportunity in the 21st century.

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