Military Use of Outer Space and the Interpretation of "Peaceful Purposes" under International Space Law

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Abstract

The increasing militarization of outer space challenges the efficacy of international space law, highlighting the friction between established legal norms and the strategic behavior of major spacefaring nations. Although the 1967 Outer Space Treaty mandates that space be preserved for peaceful purposes and the benefit of all humanity, the absence of a precise definition, particularly under Article IV, generates significant interpretive ambiguity. This ambiguity permits states to develop military-support and dual-use capabilities while maintaining formal compliance with their treaty obligations. Consequently, the blurring distinction between permissible militarization and prohibited weaponization undermines the legal regime's capacity to effectively address modern geopolitical and technological realities. This legislative inertia is further exacerbated by the fact that no new treaties have entered into force since 1984, leaving the international community to grapple with the divergence between "non-military" and "non-aggressive" interpretations of existing mandates (Otterstedt, 2020).

Utilizing a normative juridical framework, this study employs doctrinal, statutory, conceptual, and comparative legal methodologies to critically evaluate the efficacy of the extant international legal regime in regulating contemporary outer space militarization. The investigation scrutinizes key provisions of the Outer Space Treaty—specifically Articles I, II, III, IV, VI, VII, and IX—in conjunction with state practice, national space doctrines, institutional responses, and nascent governance initiatives. Eschewing empirical assessment of military capabilities or strategic outcomes, the analysis prioritizes the identification of regulatory lacunae, interpretive fragmentation, and structural deficiencies within international space law through a comparative examination of the legal positions and practices adopted by the United States, China, Russia, India, and France. Moreover, the analysis explores how the advancement of anti-satellite technologies and ballistic missile defense systems complicates the application of *jus ad bellum* and the right to self-defense in orbital environments (Abbas & Shou-ping, 2019; Sara, 2024).

The analysis indicates that major spacefaring nations broadly accept that the Outer Space Treaty permits military-support functions—including navigation, communication, intelligence, surveillance, reconnaissance, and command-and-control—yet remain divided over the regulation of space-based military activities. The United States and France prioritize soft-law approaches and norm development, exemplified by the Artemis Accords, whereas China and Russia advocate for legally binding restrictions through initiatives such as the Prevention of an Arms Race in Outer Space and the proposed Treaty on the Prevention of the Placement of Weapons in Outer Space. India adopts a balanced position, supporting multilateral governance while emphasizing the strategic role of space in national security. Consequently, institutional responses through bodies like UNCOPUOS remain impeded by divergent state interests and limited enforcement mechanisms. Furthermore, the proliferation of anti-satellite technologies continues to exacerbate these regulatory gaps, as existing

statutes fail to explicitly prohibit the deployment of conventional weapons or the generation of persistent space debris (Srivastava & Srivastava, 2025).

The paper contends that the current legal framework suffers from both normative gaps and "compliance elasticity," a phenomenon where states maintain formal alignment with international obligations while materially expanding their military space capabilities. To address this, the paper advocates for clearer definitions of "peaceful purposes," stricter regulation of anti-satellite testing and debris generation, increased accountability for private actors under Article VI of the Outer Space Treaty, and enhanced mechanisms for transparency and verification. It further promotes a stewardship-based approach to sovereignty, ensuring that national space activities support collective security and the long-term sustainability of the space environment. The study concludes that legal modernization is essential to improve the consistency and stability of space governance, ensuring that outer space remains a secure and accessible domain for present and future generations.

Introduction

Outer space has transitioned from a sphere of scientific collaboration into a theater defined by strategic competition and national security interests. The growing reliance on satellite-based communications, navigation, intelligence, and counterspace systems has rendered space a critical element of modern military strategy. Consequently, this militarization challenges the efficacy of the existing legal framework, specifically the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. As states increasingly integrate these assets into their national defense architectures, the ambiguity surrounding "peaceful purposes" has catalyzed a systemic divergence between normative legal goals and operational military behavior (Isnurwanto et al., 2026; Malinowska, 2024).

The Outer Space Treaty remains the cornerstone of international space law. Article I mandates that exploration benefit all nations, while Article II prohibits national appropriation of celestial bodies. Article III requires compliance with the United Nations Charter, and Article IV bans weapons of mass destruction in orbit, reserving the Moon and other celestial bodies for peaceful use. Furthermore, Articles VI, VII, and IX define state obligations concerning liability, supervision, and due regard for other nations. This framework is expanded by the 1968 Rescue Agreement, the 1972 Liability Convention, the 1975 Registration Convention, and the 1979 Moon Agreement, which collectively constitute the core body of international space law. Despite these established instruments, the rapid evolution of private sector activity and state-sponsored strategic competition has introduced unprecedented legal complexities, as domestic legislation increasingly invites commercial exploitation that tests the limits of the global commons principle (Azimjon et al., 2025; Hwang, 2025). The tension between individualistic commercial freedom and the collective duty to preserve space as a public good exposes the fragility of an order designed in a different geopolitical era (Bower, 2023).

Despite the existing legal framework, the rapid advancement of military and dual-use space technologies has exposed substantial regulatory lacunae. Primary concerns arise from the lack of a formal treaty definition for the term "peaceful purposes" within Article IV, alongside the absence of explicit regulations governing conventional military activities in Earth orbit. Consequently, major spacefaring powers have adopted a dominant interpretation defining "peaceful" as non-aggressive rather than non-military, thereby legitimizing military-support activities, including communications, navigation, intelligence, surveillance, and command-and-control operations. This interpretive ambiguity obscures the delineation between militarization, the utilization of space assets for auxiliary military functions and weaponization, which entails the deployment of capabilities engineered to disrupt, damage, or eliminate space systems. The proliferation of anti-satellite weaponry, cyber and electronic counterspace platforms, autonomous systems, and other dual-use technologies has further eroded this conceptual boundary. This fragmentation is exacerbated by the limited reach of current initiatives, such as the draft Treaty on the Prevention of the Placement of Weapons in Outer Space, which remains stalled due to deep-seated geopolitical mistrust (Handel-Mazzetti, 2025).

The resulting legal ambiguity is reflected in the divergent strategic approaches of major spacefaring nations. The United States and its partners prioritize governance through soft-law instruments, transparency measures, and initiatives such as the Artemis Accords (Jabar, 2025). Conversely, China and Russia advocate for legally binding restrictions, proposing frameworks such as the Prevention of an Arms Race in Outer Space initiative and the Treaty on the Prevention of the Placement of Weapons in Outer Space (Handel-Mazzetti, 2025). India and France maintain intermediate positions, endorsing multilateral cooperation and responsible behavior while concurrently augmenting their national security space capabilities (Jabar, 2025; Madhukullya & Hazarika, 2024). These competing agendas have exacerbated fragmentation within the international governance regime, limiting the capacity of the United Nations Committee on the Peaceful Uses of Outer Space to address emergent security challenges (Bower, 2023; Isnurwanto et al., 2026). Moreover, the integration of dual-use technologies within Low Earth Orbit systems complicates existing oversight mechanisms, as satellites designed for commercial telecommunications can simultaneously perform intelligence, surveillance, and reconnaissance functions (Cesari, 2025). This integration of civilian infrastructure into defense planning creates a complex dual-use dilemma, as such assets become legitimate targets for rivals seeking to degrade military capabilities without resorting to direct kinetic conflict (Mugaya, 2026).

While existing scholars have extensively examined anti-satellite weapons, deterrence, dual-use technologies, and treaty interpretation, limited attention has been directed toward the nexus between strategic state practice, institutional performance, and the normative coherence of international space law. This paper addresses this gap by employing a normative juridical methodology that integrates doctrinal, statutory, and comparative legal analysis. It assesses whether current legal frameworks sufficiently regulate contemporary military space activities and examines how major spacefaring powers interpret and operationalize "peaceful purposes" within their national policies and strategic doctrines. Specifically, the analysis evaluates the extent to which the current absence of binding rules on deconfliction and lunar security facilitates a state-centric competitive environment that undermines global commons preservation (Nie, 2025). This investigation further contends that the prevailing reliance on the right of self-defense, as permitted under international law, is frequently invoked by states to justify the development of space-centric military capabilities that circumvent existing non-proliferation efforts (Khalid, 2021).

This paper posits that the primary weakness of the current governance regime stems not merely from outdated treaty provisions, but from interpretive fragmentation and selective compliance, whereby states maintain formal adherence to obligations while expanding their military-relevant capabilities. Through a comparative analysis of the United States, China, Russia, India, and France, the study identifies critical deficiencies in the current legal architecture and proposes reforms to enhance normative clarity, strengthen accountability for state and private actors under Article VI of the Outer Space Treaty, improve the regulation of anti-satellite activities, and reinforce transparency. By addressing these gaps, the paper seeks to facilitate a more coherent, effective, and sustainable framework for governing military activities in outer space. Furthermore, the analysis investigates how the Law of Armed Conflict can be operationalized within this domain to mitigate risks, despite the inherent difficulties in applying terrestrial doctrines like distinction and proportionality to a space environment characterized by dual-use assets and cascading debris (Fuller, 2026). In particular, the orbital mechanics of space warfare imply that even non-kinetic interference could trigger catastrophic collision chains, challenging the traditional thresholds of necessity and proportionality required under international humanitarian law (Fuller, 2026; Романівна, 2025).

Issue At Hand

This study addresses the increasing militarization of outer space, defined as the strategic expansion of defense competition and military infrastructure into the celestial domain (Madhukullya & Hazarika, 2024; Sharma, 2026). The core problem is the growing dissonance between the normative ideals of the 1967 Outer Space Treaty and the current strategic behaviors of spacefaring states. These nations increasingly exploit legal ambiguities specifically the undefined notion of "peaceful purposes" to

legitimize military activities (Isnurwanto et al., 2026). This practice has created a fragmented legal landscape, where major powers interpret space law through the lens of national interest rather than collective security, driving an arms race beyond Earth's atmosphere. The lack of precise legal thresholds, binding enforcement mechanisms, and institutional coordination has rendered bodies like UNCOPUOS largely ineffective in curbing this militarization. Consequently, this regulatory vacuum threatens the integrity of international law, undermines global stability, and risks transforming space into a domain of confrontation. This research examines whether the current legal architecture can adequately accommodate these strategic realities and identifies necessary reforms to prevent further geopolitical deterioration (Jabar, 2025; Tripathi & Shreshth, 2025).

Legal Aspects of Outer Space Militarization

The militarization of outer space presents a profound challenge to contemporary international space law. The primary regulatory framework is the 1967 Outer Space Treaty, which designates space as a domain for the benefit of all humankind under Article I and prohibits national appropriation under Article II. Additionally, Article III mandates adherence to the United Nations Charter and international law, while Article IV limits military activities, explicitly prohibiting the orbital placement of nuclear weapons and other weapons of mass destruction. These obligations are reinforced by Articles VI, VII, and IX, which establish state responsibility for national activities, define liability for damage caused by space objects, and necessitate that spacefaring nations act with due regard for the interests of others. However, these provisions remain fundamentally undermined by the ambiguous distinction between benign dual-use technologies and offensive military assets, which states frequently manipulate to justify strategic dominance (Khalid, 2025; Minhas et al., 2025).

Although the OST does not prohibit conventional military activities in Earth orbit, it fails to define "peaceful purposes." Consequently, states have interpreted "peaceful" as "non-aggressive" rather than "non-military," allowing for military support functions including communications, navigation, intelligence, surveillance, reconnaissance, and command-and-control operations. This ambiguity creates a regulatory gap between *militarization*, involving the use of space assets for support, and *weaponization*, involving the deployment of offensive counterspace capabilities designed to disrupt, damage, or destroy space objects. This regulatory oversight enables the proliferation of anti-satellite weapon tests and the integration of armed satellites, which further compromise the strategic stability of the near-Earth environment (Naheed, 2023).

Legal uncertainty increases with the rise of dual-use technologies such as anti-satellite systems, cyber operations, electronic warfare, and autonomous platforms that obscure the boundary between civilian and military activities. While major space powers, including the United States, China, Russia, India, and France, generally accept that Articles I, III, and IV of the OST permit military support operations, they remain divided on the necessity for future regulation. Consequently, the primary challenge for contemporary space law is not the permissibility of military activities, but whether the existing legal framework can effectively govern sophisticated dual-use capabilities while maintaining outer space as a peaceful, sustainable domain. Furthermore, the proliferation of ground-based lasers, jamming technologies, and in-orbit interdiction systems complicates attribution, as these capabilities are often characterized by their proponents as defensive or essential for national security (Bower, 2023). The pervasive challenge of verifying intent is exacerbated by the problem of discrimination, where non-kinetic interference or kinetic tests may indiscriminately damage secondary payloads without clear markers of aggression (Mendenhall, 2018).

National Space Budgets and Military Allocation: A Comparative Analysis of Major Space Powers

National space budgets increasingly underscore the strategic importance of outer space for national security. As the world's preeminent space power, the United States reports annual expenditures of approximately USD 65–75 billion. The Fiscal Year 2026 U.S. Space Force budget allocates nearly USD 40 billion to military initiatives including satellite communications, missile warning, intelligence, surveillance, and reconnaissance, Global Positioning System services, and counterspace capabilities.[1]

This prioritization confirms that military imperatives remain the central driver of contemporary U.S. space policy. Similarly, China's strategic investments in military space programs signify its transition toward treating the orbital domain as a primary war-fighting theater, characterized by rapid advancements in both defensive and offensive counterspace technologies (Pekkanen, 2019; Wehtje, 2022).

China has established itself as the second-largest space power, with estimated annual expenditures ranging from USD 18–22 billion. Although specific military allocations remain undisclosed, reports from the Center for Strategic and International Studies and the OECD indicate that a substantial share of this budget supports dual-use and military programmes, reflecting Beijing's "military-civil fusion" policy.[2] Chinese investments are strategically concentrated in the BeiDou Navigation Satellite System, secure communications networks, intelligence, surveillance, and reconnaissance satellites, and counterspace infrastructure, thereby embedding orbital capabilities into the nation's broader defence objectives. This rapid acceleration of military space programs reflects a broader geopolitical trend where space is increasingly treated as a critical, contested theater of warfare rather than a sanctuary for peaceful exploration (Frieden, 2025).

Russia sustains a focused space program with estimated annual expenditures between USD 7–10 billion. According to the Stockholm International Peace Research Institute, Russia prioritizes defense-related spending, including military satellite constellations, early-warning infrastructure, GLONASS navigation services, and anti-satellite capabilities. Despite fiscal constraints, this space architecture remains central to Russia's strategic deterrence and national security framework. The militarization of outer space, defined by the integration of orbital infrastructure into national security architectures, has thus transitioned from a Cold War relic into a foundational pillar of modern geopolitical power (Ali & Ikram, 2026; Setyawan et al., 2025).

India maintains a relatively modest national space budget, amounting to approximately USD 1.6–2.5 billion annually. The Department of Space's allocation of ₪13,705.63 crore in the Union Budget 2026–27 underscores a dual commitment to civilian and strategic space development. India's defensive space architecture has notably advanced through the formation of the Defence Space Agency, the operationalization of NavIC, the deployment of surveillance platforms such as EMISAT, and the integration of orbital assets into national security planning following the Mission Shakti demonstration. While precise military-specific space expenditure data remains classified, policy directives and strategic documents indicate a consistent, upward trend in defense-focused orbital investment. This proliferation of counterspace capabilities underscores the urgent necessity to address the legal ambiguity surrounding "peaceful purposes," as current international frameworks fail to adequately govern the shift from passive support to active military engagement in orbit (Lemieux, 2025; Mahardika et al., 2025).

As a leading military space power in Europe, France allocates approximately USD 4–5 billion annually to space programs, with an increasing portion directed toward military capabilities through the French Space Command. These investments prioritize satellite communications, intelligence, space situational awareness, and the defense of critical assets, reflecting France's commitment to ensuring strategic autonomy within the orbital domain. This research aims to critically examine these regulatory deficiencies by questioning whether existing international space law is sufficient to prevent the escalation of space-based conflict between major powers (Rashid, 2024; Tanveer, 2024).

A comparative assessment reveals that the United States and China allocate the largest proportion of national resources to military space programs to secure strategic superiority. Russia prioritizes military capabilities despite fiscal constraints, whereas India and France maintain a balanced approach by integrating civilian space development with defense-oriented initiatives. These trends underscore the increasing militarization of outer space—defined as the integration of orbital infrastructure into national security architectures (Ali & Ikram, 2026). While Articles I, III, and IV of the 1967 Outer Space Treaty permit military support activities such as communications and reconnaissance, the current legal framework is increasingly viewed as inadequate to regulate the weaponization of the orbital domain and the deployment of technologies capable of active military

engagement (R, 2025; Wehtje, 2022). In light of these regulatory deficiencies, this study critically evaluates whether existing international space law is sufficient to prevent the escalation of space-based conflict between major powers (Rashid, 2024; Tanveer, 2024).

Comparative Postures of Major Space Powers Towards International Space Law

The United States, China, Russia, India, and France broadly concur that Articles I, III, and IV of the Outer Space Treaty (OST), 1967, do not prohibit all military activities in outer space but rather prohibit the placement of weapons of mass destruction in orbit and restrict military activities on celestial bodies. Consequently, all five states interpret the term "peaceful purposes" under Article IV as "non-aggressive" rather than "non-military," thereby permitting military support functions such as navigation, communications, intelligence, surveillance, and reconnaissance. However, significant divergences emerge regarding the future development of international space law. The United States, supported largely by France, favours the progressive evolution of legal norms through soft-law instruments, state practice, transparency measures, and initiatives such as the Artemis Accords, while relying on domestic frameworks including the Commercial Space Launch Competitiveness Act, 2015, the U.S. National Space Policy, the French Space Operations Act, 2008, and the French Space Defence Strategy. In contrast, China and Russia argue that the existing treaty regime is inadequate to regulate emerging counterspace technologies and military capabilities and therefore advocate legally binding instruments, including proposals under the Prevention of an Arms Race in Outer Space (PAROS) initiative and the draft Treaty on the Prevention of the Placement of Weapons in Outer Space (PPWT). Their positions are reflected in China's military-civil fusion policies, national space white papers, and Russia's Law on Space Activities, 1993. India occupies a middle ground, recognizing the legitimacy of military support activities under the OST while emphasizing peaceful use, multilateral cooperation, transparency, and consensus-based norm development through the Indian Space Policy, 2023, the Defence Space Agency, and the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS). Thus, while a broad consensus exists regarding the interpretation of Articles I, III, and IV of the OST, the principal divide concerns the preferred mechanism for future governance, with the United States and France favouring soft-law and incremental norm development, China and Russia advocating treaty-based regulation, and India supporting a balanced approach that combines existing treaty principles with gradual legal evolution. This divergence has contributed to regulatory fragmentation and continues to raise questions regarding the adequacy of the current international legal framework in addressing increasingly sophisticated military and dual-use space technologies.

Comparative Engagement with International Space Institutions

Major space powers are divided in their approach to international space governance: some prioritize legally binding arms-control measures, while others favor flexible normative frameworks. China and Russia consistently advocate for new, legally binding treaties to regulate space weaponization and military activities, specifically supporting the Prevention of an Arms Race in Outer Space initiative and the draft Treaty on the Prevention of the Placement of Weapons in Outer Space. They typically vote for UN General Assembly resolutions that promote arms control and stricter space security regulations. Conversely, the United States often resists treaty-based proposals like the PPWT, citing concerns over verification. Instead, it promotes voluntary norms, transparency measures, and soft-law agreements like the Artemis Accords. France shares this preference, supporting rules-based governance, transparency, and confidence-building measures rather than major treaty reform. India takes a middle ground, supporting PAROS resolutions and multilateral dialogue within the UN Committee on the Peaceful Uses of Outer Space, while preferring consensus-based development over extensive treaty changes. Despite these differences, all five nations remain active in UNCOPUOS and recognize the enduring relevance of the 1967 Outer Space Treaty, indicating shared agreement on its fundamental principles. The primary disagreement concerns the future of space law: China and Russia favor binding treaties, the United States and France prefer soft-law governance, and India advocates for a balanced approach combining treaty principles with incremental growth. This

normative stalemate is further complicated by the rapid proliferation of private sector actors and dual-use technologies, which necessitates a more comprehensive framework to address the risks of orbital congestion and jurisdictional shopping (Nomura et al., 2024; Pic et al., 2023). Furthermore, the growing influence of the private space sector, as evidenced by the structural power dynamic where the United States leverages its expansive commercial network to socialize its preferred norms—suggests that future governance may increasingly shift away from traditional intergovernmental treaty-making toward industry-led standardization (Morin & Tepper, 2023).

Strategic Legal Reform Proposals in International Space Law

Contemporary reform proposals reflect a consensus that the foundational legal framework—comprising the Outer Space Treaty, the Rescue Agreement, the Liability Convention, and the Registration Convention—is ill-equipped to address modern challenges stemming from military competition, commercial expansion, and rapid technological advancement. Regarding weaponization, a clear normative divide persists: China and Russia advocate for legally binding instruments, such as the proposed Treaty on the Prevention of the Placement of Weapons in Outer Space (Vestner, 2020), while the United States and France emphasize voluntary commitments, transparency measures, and norms of responsible behavior.

Concurrently, scholars and policymakers seek to clarify the meaning of "peaceful purposes" under Article IV of the Outer Space Treaty to resolve divergent interpretations of militarization and weaponization. Further initiatives focus on establishing an international Space Traffic Management regime to address orbital congestion, collision avoidance, and satellite coordination, alongside binding protocols for debris mitigation and remediation. Regarding the legal status of space resource extraction under Articles I and II of the Outer Space Treaty, proposals range from adopting the Artemis Accords (Pic et al., 2023) framework to negotiating a new multilateral agreement. Finally, calls for enhanced Transparency and Confidence-Building Measures and institutional reforms to strengthen the role of UNCOPUOS (Pic et al., 2023) highlight the broader endeavor to modernize international space law through a hybrid approach of treaty-based regulation, interpretative clarification, and soft-law governance.

Philosophical Reflection and Future Legal Trajectory

The militarization of outer space presents critical legal and strategic challenges, raising fundamental questions about sovereignty, collective responsibility, and the future of global governance. The 1967 Outer Space Treaty, particularly Articles I through IV, established space as a global commons intended for the benefit of all humankind and free from national appropriation. Yet, contemporary state practice increasingly shifts toward "techno-sovereignty," with major powers leveraging space assets to advance national security interests. Governance preferences remain divided: the U.S. and France prioritize soft-law instruments and flexible state practice, while China and Russia advocate for legally binding restrictions on space weaponization, and India supports a balanced, consensus-based approach (Pic et al., 2023; Vestner, 2020). This divergence highlights the growing gap between the OST's normative aspirations and current geopolitical realities. Consequently, the future of international space law depends on strengthening existing treaty principles through clearer rules regarding military activities, space sustainability, debris mitigation, transparency, and accountability. By drawing on stewardship concepts and precedents from the Antarctic Treaty System and the United Nations Convention on the Law of the Sea, future reforms should reconcile national security imperatives with the collective responsibility to maintain space as a sustainable, peaceful, and accessible domain. Such institutional development must address the persistent enforcement deficits and methodological limitations that currently threaten the coherence of the established governance frameworks (Jabar, 2025, 2026).

Conclusion

The militarization of outer space has exposed significant limitations in the contemporary framework of international space law. This study demonstrates that the core challenge is not the absence of legal rules, but rather interpretive ambiguity, strategic incentives, and institutional compliance deficits that allow states to expand military capabilities while maintaining formal consistency with the 1967 Outer Space Treaty. A comparative analysis of the United States, China, Russia, India, and France indicates a broad consensus that Articles I, III, and IV of the Treaty permit military support activities such as navigation, communications, and intelligence, surveillance, and reconnaissance. However, significant divergence persists regarding future regulation: the United States and France favor soft-law mechanisms and norm development through state practice, while China and Russia advocate for legally binding restrictions on weaponization, and India maintains a balanced, consensus-oriented approach. Beyond these geopolitical postures, the accelerating return of great power competition exacerbates the risk of an unchecked arms race, rendering the formal adherence to peaceful purposes increasingly fragile (Stroikos, 2023).

The findings suggest that contemporary space governance is defined by "compliance elasticity," wherein states maintain formal adherence to treaty obligations while actively advancing military and dual-use capabilities. Consequently, the existing legal regime increasingly struggles to distinguish between legitimate security activities and the progressive weaponization of space. This ambiguity is further compounded by rapid technological advancements—including counterspace and autonomous systems as well as the increasing involvement of private actors in strategic space operations. To address these structural shortcomings, experts increasingly argue that binding norms governing responsible behavior must supplement existing soft-law instruments to effectively curb the escalation of military activities (Freeland, 2020).

To address these challenges, this paper proposes reframing sovereignty in international space law from a paradigm of control to one of stewardship. Rather than treating outer space as a theater for geopolitical competition, states should act as custodians of a fragile global commons. Legally, this framework can be operationalized by strengthening due regard obligations under Article IX of the Outer Space Treaty, enhancing state responsibility for all space activities under Article VI, and establishing precautionary restrictions on debris generation alongside robust transparency and accountability mechanisms. These reforms would not diminish state sovereignty; rather, they would condition its exercise upon the mitigation of systemic risks to the long-term sustainability of the space environment. Moving toward this paradigm shift requires moving beyond the current stagnation characterized by interstate competition and the refusal of major powers to engage in substantive arms control negotiations (Blount, 2019).

The future efficacy of international space law rests on reconciling national security imperatives with collective responsibility. The primary challenge is no longer the permissibility of military activities, but the regulation of increasingly sophisticated dual-use technologies. Without legal modernization, the divergence between normative commitments and state practice will persist. A governance framework rooted in stewardship, sustainability, and cooperative security offers the most viable path for preserving outer space as a peaceful, secure domain for future generations. Ultimately, achieving this transition demands the political resolve to transform conceptual aspirations into concrete regulatory requirements and binding international standards (Hitchens, 2023).

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