



ISSUE DESCRIPTION



COMMITTEE Committee on the Peaceful Uses of Outer Space

ISSUE Examining the impact of suborbital flights for scientific missions and space tourism on space law

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Introduction

Throughout the previous and current century, the technological advancements in space travel have left a huge gap for space law to cover, and so many issues have arisen due to the insufficient and inadequate explanation of it. The aforementioned issue has impacted space tourism and human transportation to space, as we still lack fundamental principles such as the definition of suborbital flights and the legal regulation of them. Although a handful of commercial suborbital flights have occurred within recent years, with many influential individuals launching successful trips to space in the race of commercial space travel, there is no existing distinction between air space and outer space to determine whether air or space law should govern commercial suborbital flights, as the Karman line is not agreed upon by international law. This greatly affects the progress of space law and could be the causation for multiple nationally applied issues to arise to the surface becoming the motive for conflict and damaged diplomatic relationships.

Definition of Key Terms

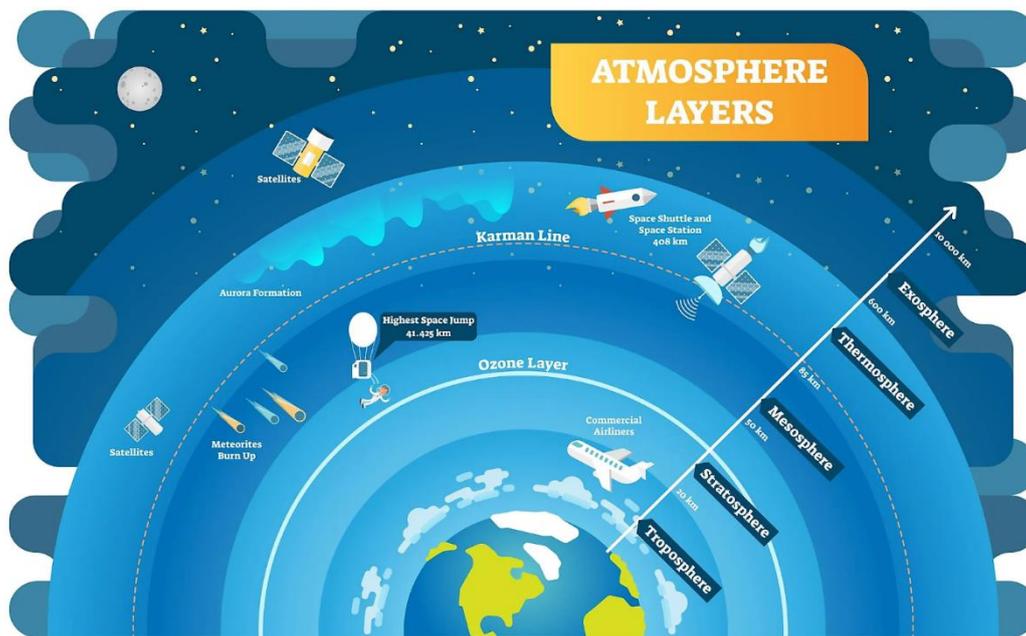
Suborbital flights: A sub-orbital spaceflight is a spaceflight in which the spacecraft reaches outer space, but its trajectory intersects the atmosphere or surface of the gravitating body from which it was launched, so that it will not complete one orbital revolution or reach escape velocity.

Escape Velocity: Escape velocity is the lowest velocity which a body must have or reach in order to escape the gravitational attraction of a planet.

Fédération aéronautique internationale: The Fédération aéronautique internationale is the world governing body for air sports, and it also stewards definitions regarding human spaceflight. It was founded on the 14th of October 1905, and is headquartered in Lausanne, Switzerland. It maintains world records for aeronautical activities, including ballooning, aeromodeling and unmanned aerial vehicles (drones), as well as flights into space.

UNOOSA: United Nations Office for Outer Space Affairs.

Kármán Line: The Kármán line is an attempt to define a boundary between Earth's atmosphere and outer space. It offers a specific definition set by the Fédération aéronautique internationale, an international record-keeping body for aeronautics. Defining the edge of space is important for legal and regulatory purposes since aircraft and spacecraft are subject to different jurisdictions and are subject to different treaties. International law does not define the edge of space, or the limit of national airspace. The Kármán line is approximately 100 km (62 miles) above Earth's surface.



Space Tourism: The practice of traveling into space for recreational purposes.

Space Law: Space law can be described as the body of law governing space-related activities. Space law, much like general international law, comprises a variety of international agreements, treaties, conventions, and United Nations General Assembly resolutions as well as rules and regulations of international organizations.

General Overview

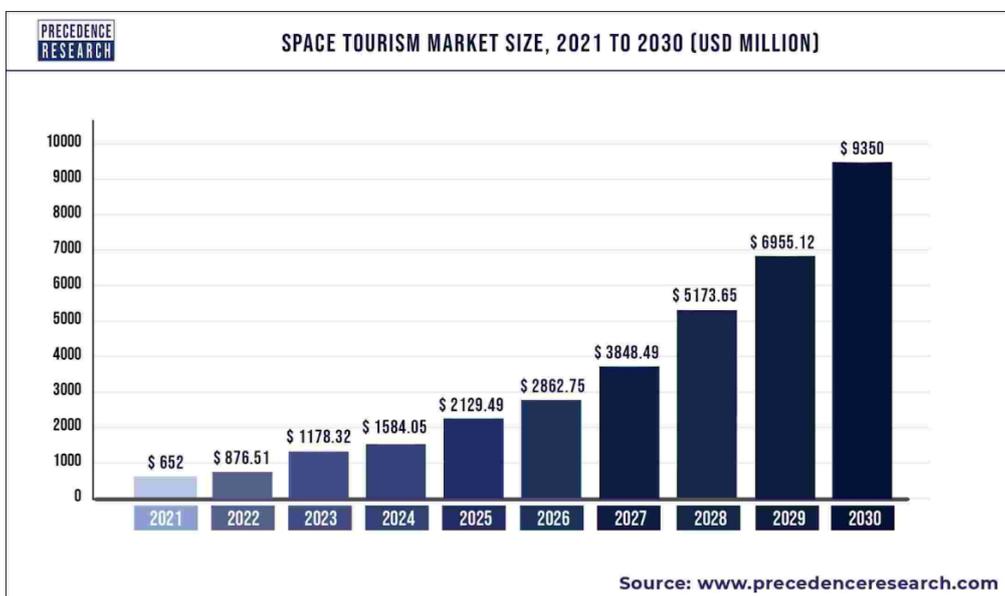
It is an undeniable fact that in today's society, technology has advanced so much that it has left a hole for law to cover; so much so that the consequences of the absence of rules & regulations of outer space have shed light on numerous issues in regards to suborbital flights and whether air or space law should govern them. This dilemma, if air or space law is applicable in this case, has developed due to the lack of a clear definition of suborbital flights. When trying to provide

a definition, a lot of technical questions come up such as “are borders crossed?”, “if the borders were crossed, at what altitude did that happen” and “What is the maximum altitude reached by the suborbital flight?”. Depending on the classification, a suborbital flight may be subject to both space law and air law at the same time. Classifying a suborbital flight in either category (space or air law) has many consequences, in terms of State sovereignty, responsibility, liability, the flight’s incorporation into air traffic or space traffic and safety.

The impact of suborbital flights for scientific missions and space tourism on space law is an important and evolving area of discussion. Suborbital flights have the potential to greatly increase access to space for both scientific research and private enterprise, but this growth in activity raises a number of legal questions. One key area of concern is the regulation of private suborbital spacecraft and launches. Currently, there is limited international law governing the commercial use of suborbital space, and there is a need for clear, consistent legal standards to ensure safety, security, and equitable use of this emerging domain. Another important consideration is the responsibility of private companies and nations for the impact of their suborbital activities on other actors and the space environment itself. For example, suborbital space debris could pose a significant threat to other space-faring nations and their assets.

Additionally, suborbital flights have the potential to enhance our understanding of the universe and advance scientific discovery. It is important that international laws and agreements ensure that scientific data collected from suborbital flights is made available to the wider research community and that the sovereignty of nations over their territories, including the suborbital space above, is respected with no violation of any treaties signed.

Overall, suborbital flights for scientific missions and space tourism present both opportunities and challenges for the development of space law. As the field continues to grow and evolve, it will be important to continue to assess and address the legal implications of this new era of suborbital space activity.



Major Parties Involved

NASA: As aforementioned, the Karman line which differentiates outer space and Earth's atmosphere isn't agreed internationally. In particular NASA has a different definition on where does space start; that being 12 miles below the Karman line and 50 miles above Earth's surface.

United States: The U.S. military also hosts the same definition of outer space as NASA, placing it just 12 miles below the Karman line. The U.S is a major party in the space domain and has the ability to independently launch humans into space.

China: Alongside the U.S., China is also a major party in terms of space exploration and human transportation to space.

Russia: Being a front runner with China and the United States, Russia has been one of the few countries who have completed human transportation to space for scientific purposes and space exploration.

Timeline of Events

1905 – Fédération aéronautique internationale was founded.

1958 – NASA was founded.

1959 – COPUOS was founded.

1960s – Karman line was established.

16th of July, 1969 – First Moon Landing.

1966 – Outer Space Treaty.

1968 – Rescue Agreement signing of treaty.

1972 – Space Liability Convention was signed.

1976 – Registration Convention was signed.

1979 – Moon Treaty was signed.

Previous Attempts to Solve the Issue

SPACE TREATIES

- The “Outer Space Treaty”
 - A Treaty on principles governing the activities of States in the exploration and use of Outer Space, including the Moon and other Celestial bodies.
- The “Rescue Agreement”
 - An agreement on the rescue of astronauts, the return of astronauts and the return of objects launched into Outer Space.
- The “Liability Convention”
 - A convention on international liability for damage caused by space objects.
- The “Registration Convention”
 - A convention on registration of objects launched into Outer Space.
- The “Moon Agreement”
 - An agreement governing the activities of States on the Moon and other Celestial bodies.

LEGAL PRINCIPLES

- The “Declaration of Legal Principles”
 - A Resolution adopted by the General Assembly in 1962. (Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space)
- The “Broadcasting Principles”
 - A Resolution adopted by the General Assembly in 1982. (Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting)
- The “Remote Sensing Principles”
 - A Resolution adopted by the General Assembly in 1986. (Principles Relating to Remote Sensing of the Earth from Outer Space)
- The “Nuclear Power Sources”
 - A Resolution adopted by the General Assembly in 1992. (Principles Relevant to the Use of Nuclear Power Sources In Outer Space)
- The “Benefits Declaration”
 - A Resolution adopted by the General Assembly in 1996. (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)

Possible Solutions and Approaches

There are several solutions that can be implemented to address the impact of suborbital flights for scientific missions and space tourism on space law:

DEVELOPMENT OF INTERNATIONAL AGREEMENTS

As suborbital flights become more prevalent, there is a need for clear, consistent legal standards to ensure safety, security, and equitable use of this emerging domain. One solution is the development of international agreements that establish the rights and responsibilities of nations and private companies in suborbital space. These agreements could cover issues such as space debris mitigation, allocation of orbital slots, and licensing of launch providers.

ENHANCED COOPERATION AND COORDINATION AMONG SPACE ACTORS

The increasing number of actors in suborbital space means that there is a greater need for enhanced cooperation and coordination among these actors. This can be achieved through the establishment of international working groups, joint research programs, and shared use of infrastructure.

IMPLEMENTATION OF SUSTAINABLE PRACTICES

As suborbital space activity grows, it is important to ensure that it is conducted in a sustainable and responsible manner. This can include measures such as reducing the use of hazardous materials, minimizing waste, and using renewable energy sources.

PROMOTION OF TRANSPARENCY AND DATA SHARING

Scientific data collected from suborbital flights can contribute to advancements in space science and technology. To ensure that this data is used to its full potential, it is important to promote transparency and data sharing among researchers and nations.

STRENGTHENING OF NATIONAL SPACE LAWS AND REGULATIONS

National space laws and regulations can play a critical role in ensuring that suborbital space activities are conducted in a safe and responsible manner. Governments can strengthen their laws and regulations to address issues such as safety, environmental protection, and liability.

In summary, addressing the impact of suborbital flights for scientific missions and space tourism on space law will require a collaborative effort among space actors and the development of new legal and regulatory frameworks.

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