IISL COLLOQUIUM ON THE LAW OF OUTER SPACE (E7)
A new look at (how far are we with) Space Traffic Management (3)

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THE ROLE OF THE INTERNATIONAL COORDINATION AGENCY FOR SPACE DATA EXCHANGE IN STM

Abstract

In 2020, more than 1,000 spacecraft were launched into outer space. It is expected that more spacecraft will be launched into outer space every year in the future because of the process of large satellite constellations. The risk level of potential collisions in outer space will increase. It is necessary to establish an efficient, safe, and feasible STM system. In order to maintain the outer space environment, ensure the normal exploration and use of outer space by all humankind, protect the astronauts in space stations and crewed spacecraft. The STM system needs a mechanism for space data exchange to improve risk assessment capabilities and reduce spacecraft operators' operating costs. The mechanism for space data exchange should include three elements. Firstly, the rules for space data exchange, including how to collect, processing and feedback of space data, operation standards for analyzing space data to determine potential collision risks, and technical recommendations for preventing collisions. Secondly, States should build a domestic regulatory system to ensure spacecraft operators perform obligations of space data exchange and obligations preventing collisions. Thirdly, States should establish an international coordination agency for space data exchange (hereinafter the Agency) responsible for the final collection, processing, and analysis of the space data, determining potential collision risks, and providing feasible collision avoidance recommendations. UNOOSA and ITU have assumed the responsibility of collecting and disclosing space data related to their international legal obligations in space activities. However, UNOOSA or ITU isn't suited for the role of the Agency in STM. The function of the Agency in STM is similar to that of the Air Navigation Service Provider (ANSP) in ATM. However, the difference between ANSP and the Agency is whether the responsibility can be divided. ANSP provides ATS within its responsible airspace, and the responsibility range of ANSP could be clearly defined. However, the responsibility of the Agency cannot be divided in accordance with the territory. The reason is that the movement of space objects is different from that of aircraft; most Non-GSO spacecraft will fight through outer space that is not within any State's sovereignty. The operating model of the existing transportation management department cannot be directly applied to establishing the Agency. Therefore, it is crucial to determine the composition and working mode of the Agency before establishment.