

58th IISL COLLOQUIUM ON THE LAW OF OUTER SPACE (E7)  
Legal Issues of Space Traffic Management (4)

Author: Prof. Makiko Shimizu  
Tohoku University, Japan

Prof. SOUICHIROU KOZUKA  
Gakushuin University, Japan

Mr. Masao Fujino  
Japan

Mr. Nagahisa Kita  
Japan

Prof. Hatsuru Morita  
Tohoku University, Japan

## THE LIABILITY OF A CIVIL GNSS OPERATOR UNDER THE DOMESTIC LAW: CASE STUDIES

**Abstract**

The liability arising from the case of GNSS (Global Navigation Satellite Systems) malfunction has been intensively discussed among the space law academia, as well as in the international organizations, such as UNIDROIT and ICAO. Finding a solution to this problem will reduce legal uncertainties and will support the ongoing projects, such as Galileo of EU and QZSS of Japan, both of which intend to bring civilian GNSS into operation. However, these arguments often lack a comprehensive picture of the whole issue, and address only a limited part of the problem. It is partly because each argument reflects particular interests and concerns of the forum of debate, and partly because they are based on tacit assumptions about what is going to happen and what kind of liability is going to be incurred, and by whom, in an actual situation. In order to avoid such shortcoming of a theoretical analysis, this paper provides three hypothetical cases of GNSS malfunction affecting ocean navigation, air navigation and financial trade respectively, and analyzes the possible liabilities of related parties under the applicable national law. The parties whose liabilities are examined include governmental and private GNSS service providers, augmentation system providers, manufactures of satellites and other devices, and GNSS service users. Based on the case analysis, the key issues of GNSS liabilities will be clarified, and the need for introducing a new legal regime (including an international convention) will also be discussed.