

66th International Astronautical Congress 2015

58th IISL COLLOQUIUM ON THE LAW OF OUTER SPACE (E7)
Recent Developments in Space Law (5)

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LEGAL IMPLICATIONS ON AUTONOMOUS ORBIT SATELLITE SERVICING, ACTIVE DEBRIS
REMOVAL AND ASTEROID RETRIEVAL MISSIONS

Abstract

Technological capabilities for on-orbit satellite servicing, active debris removal and asteroid retrieval at present represent the missions scenarios in outer space. These missions in low orbit (LEO) concepts often rely on a thrusting vehicle to redirect and steer a passive object. On-orbit satellite servicing includes a variety of activities, e.g. ranging from visual inspections and orbit correction to refueling and local repairs. Active debris removal consists of recovering the debris, moving it to a graveyard orbit, or forcing it to re-enter the atmosphere and its process consists of two steps in capturing of a debris object and the de-orbiting of this object. Asteroid retrieval aims robotically capturing and returning an entire Near-Earth Asteroid to the vicinity of the Earth. Apart from these advanced technological capabilities, legal impediments may prove to be a greater challenge for them. This paper aims to analyze the legal issues of responsibility and liability, jurisdiction and control, launching state and state of registry, intellectual property rights, space debris definition, spectrum and slotting and export control present in the mentioned missions.