

66th International Astronautical Congress 2015

58th IISL COLLOQUIUM ON THE LAW OF OUTER SPACE (E7)
The portrayal of Space (Law) in Media and Movies (3)

Author: Prof. Jinyuan SU
Xi'an Jiaotong University School of Law, China, jinyuan.su@hotmail.com

SAVING THE EARTH FROM A DEEP IMPACT: STATE RESPONSIBILITY AND LIABILITY FOR
DAMAGES CAUSED IN PLANETARY DEFENSE

Abstract

The Earth is under constant shower of extraterrestrial matters. Most of them cannot survive the very high heat produced in their entry into the atmosphere to make a terrestrial impact. Impacts that are capable of inflicting terrestrial casualties and damages are even rarer. However, with the change of human settlement patterns on the Earth, the possibility of impacts that can lead to catastrophic consequences is obviously higher. The Tunguska impact of 1908, in which an extraterrestrial object of 60-190 meters in diameter exploded at an altitude of 5-10 km and levelled 2,000 square kilometers of trees in Siberia, caused no casualties. However, if a similarly-sized asteroid were to enter the Earth's atmosphere at the same velocity today, there would have been significantly higher chances of striking an inhabited area, thus producing significant casualties. Fortunately, the development of space science and technology has enabled human beings to predict possible impacts with some accuracy, and even to avoid actual collision.

However, success cannot always be guaranteed in the missions of planetary defense, as portrayed in the 1998 movie *Deep Impact*. There is even a possibility that compared to the no-action scenario, planetary defense may result in even more serious damages, or transfer the damages to an initially damage-free country. This article examines the issues of State responsibility and liability for damages on the Earth and in outer space in planetary defense, drawing on the Outer Space Treaty, the Liability Convention, and general principles of international law. It is argued that planetary defense should be conducted through international cooperation rather than unilaterally, and tailored rules of responsibility and liability for damages should be formulated, in order to avoid the abuse of rights and not to discourage States from taking responsive measures against hazardous Near Earth Objects.