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Author: Mr. Peng Wang
China, wangpeng6165@126.com

Ms. Yuelin Liu
China, liuyuelin777@gmail.com

THE TRAGEDY OF COMMONS IN OUTER SPACE—THE CASE OF SPACE DEBRIS

Abstract

The state's right to outer space is far from clear delimitation. Outer space is a typical commons, which means every sovereign state has the right to use the outer space and no state has the right to exclude others from using the outer space. The logic of tragedy of commons equally applies in outer space which means the resource of outer space will inevitably be over-used—for example, the space debris. Space debris is the collateral pollution of the exploration of outer space, which can be categorized in negative externality. The article seeks to frame the space debris problem in perspective of basic property theory.

The current right regime under UN-based multilateral treaties will be the outset and the implied background of the entire enquiry. Part II focuses on the incentives provided by the property rights regime and then the externality explanation of space debris as a result of overuse of outer space. Part III comes to the dilemma of international collective action to the mitigation of space debris. The core issue is that the damage space debris caused is so far less than coordination cost of international collective action. In other words, space debris problem is not so urgent in current status of technology. This article concludes by discussion of the role of technology and some other parameters that may be influential to or even decisive in the international cooperation of space exploration and debris mitigation.