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THE DUE CRITERIA AND PRINCIPLES FOR THE ACTIVE SPACE DEBRIS REMOVAL

Abstract

There are already some academic researches on ADR, however, from the author's point of view, most of them are either too general to be constructive or too remote to be practical at present. The paper aims at setting up the due criteria and principles for ADR, which could be referred effectively in a short term. The paper suggests adopting different principle, such as "polluters pay principle" (PPP) and "the one who cleans benefits principle" (WCBP) to different criterion which is divided by the resource of the space debris. The space debris (i.e., non-functional and/or uncontrolled man-made objects and component parts thereof) which is planned to be removed by the Actor State could be classified into three criteria: it was launched or generated, such as disintegrated from the space object launched by the Actor State, by other States or the space debris coming from unidentified sources. And then the above two mentioned principles should be adopted case by case. In the first criterion, the PPP should be adopted if the space debris is the fragments of a space object of a launching State, no matter it is generated from a normal operation or from accident, such as explosion. In other words, the launching State in the above situation should be responsible for the removal. In the second criterion, the WCBP should be considered if the space debris is, for example, a non-functional satellite of another launching State. The ADR here should have the approval of the launching State and then both that launching State and the Actor State could benefit from the removal, such as have the priority to acquire the allocation of the cleaned spot orbit; and if the space debris coming from the fragments of a space object launched by other States, the Actor State could remove it directly without permission from the launching State on the condition that the space assets of the Actor is facing treat by the fragment; and if the threat does not exist, the actor should benefit from its voluntarily removing mission. In the last criterion, also the WCBP should be taken into account to encourage the ADR mission. Only proper criteria and principles could give states and other stakeholders the right and enough motives to do the right things, including developing and demonstrating ADR technology and missions.