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A DETERRENCE FRAMEWORK FOR ASAT OPERATIONS IN SPACE WEAPONIZATION

Abstract

The rise of the global tensions and rapid technological advancement demands effective deterrence strategies in space operations. While space-based assets have become increasingly vulnerable to external threats, states have started investing in counter-space capabilities. Amidst the rise of various counter-space capabilities like cyberwarfare, electronic countermeasures, direct-energy weapons, and ASAT missiles, it becomes important to clarify the definition of "ASAT" within legal and policy frameworks governing space activities. As it makes difficult to differentiate between "defensive" and "offensive" intentions of the nations, it raises concerns whether this development will promote peace or trigger space weaponization. The study will focus on extensive analytical framework and briefly deal with the implementation of deterrence theory in ASAT operations within the scope of space weaponization. Additionally, the paper adopts the concept of the "3C" - Capability, Communication, and Credibility to analyse deterrence strategies in ASAT operations, incorporating the ability to prevent hostile aggression and clearly communicate intentions, and validate the credibility of potential countermeasures. While the initial efforts such as Article IV of the Outer Space Treaty and Prevention of an Arms Race in Outer Space (PAROS) are put forth, the paper will try to find legal ground within the international space law, thus exploring the possibility of implementing legal mechanism on ASAT operations within soft law regime. With the absence of globally-accepted framework for deterrence in space, the conventional and nuclear deterrence concepts have been applied to space operations. However, the unique characteristics of the space domain requires a nuanced approach. Central to the proposed deterrence strategy is the utilization of Space Situational Awareness (SSA) data, which encourages cooperation among the countries owning ASAT capabilities. By sharing information and working together, nations can strengthen their deterrence efforts, discouraging hostile actions in space. Moreover, the paper explores the concept of interdependence and international partnerships as crucial components of space deterrence. By engaging emerging space-faring nations and fostering cooperation, the international community can mitigate the risk of destabilizing behaviours while promoting norms of responsible conduct in space. The paper concludes with the recommendations to adopt a dedicated and mutual approach to deter ASAT operations, by encouraging multi-lateral agreements, upgrading SSA capabilities and employ mutual transparency in space operations. Thus, it will encourage – safeguarding the critical space infrastructure and maintain the stability in the midst growing security challenges.