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NAVIGATING THE DEBRIS FIELD: A RISK ASSESSMENT OF ASAT TESTING ON OUTER SPACE  
SUSTAINABILITY**Abstract**

The current geopolitical landscape, marked by escalating conflicts, compels us to reevaluate the permissible actions in outer space. The notion of outer space being the "province of all mankind," as articulated in Article 1 of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (OST), prompts us to prioritize sustainability and mitigate debris. However, acknowledging the dual nature of outer space, it cannot be divorced from considerations of defense. In response to this complex reality, a coalition of nations, including the United States, European Union members, and others, totaling 155 countries, proposed and successfully passed a ban through the United Nations General Assembly in December 2022. This ban prohibits the conduct of destructive direct-ascent anti-satellite missile tests. This significant step underscores the global commitment to ensuring the responsible and peaceful use of outer space, while also addressing security concerns. This essay aims to conduct a comprehensive risk assessment concerning the threat to sustainability in outer space resulting from debris generated by Anti-Satellite (ASAT) tests. The analysis will utilize case studies of prominent ASAT tests, including those conducted by China in 2007, the United States in 2008, India in 2019, and Russia in 2021, alongside pertinent information spanning from 2007 to the present day. Employing quantitative methodologies, this investigation seeks to offer an exploration into the multifaceted challenges posed by ASAT testing on the sustainability of outer space.