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SPACE DEBRIS, THE DARK SIDE OF THE FORCE OF KINETIC ASAT TECHNOLOGY

Abstract

The use of kinetic force in outer space is dangerous for both geopolitical stability and for the sustainability of space. The effects of China's 2007 anti-satellite test are felt to this day, and India's "Mission Shakti" in 2019, even if conducted in a lower, safer orbit, served to further highlight the perils of the use of kinetic weapons in space.

The use of kinetic force in outer space is dangerous for both geopolitical stability and for space sustainability. The effects of China's 2007 anti-satellite test are felt to this day, and India's "Mission Shakti" in 2019 served to further highlight the perils of the use of kinetic weapons in space, such as the inevitable creation of space debris. Due to the essential role space technology plays in our daily lives, the damage of a satellite by debris could have devastating consequences for life on Earth as we know it. States have condemned the use of these weapons, but have shied away from calling them illegal.

This paper proposes that there are grounds to consider kinetic ASATs unlawful under existing international law. The basis for this proposal is rooted in an analysis conducted from three perspectives:

1. Outer space law: kinetic weapons could be considered analogous to weapons of mass destruction due to their comparable destructive effects, and thus in contravention of article IV of the Outer Space Treaty ("OST"). Their utilization, even in the context of a test, could also be interpreted to breach the principle of the use of space for "peaceful purposes", as well as the OST's article I mandate to use space "for the benefit and in the interests of all countries". Furthermore, kinetic ASAT technology use could be understood to violate the "due regard" principle and the prohibition of "harmful contamination" and "harmful interference" enshrined in article IX of the OST.
2. Law of the use of force armed conflict: kinetic ASATs can be interpreted to violate the principle of discrimination. Even if they can target an object with extreme precision, the resulting debris cannot be contained, which can have devastating reverberating effects that are wholly indiscriminate and disproportionate.
3. Environmental law: the debris-producing effects of the use of ASAT technology could be considered a breach of the general obligation of States under environmental law to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control.

Based on the analysis presented in this work, it is advisable that the international community work towards the banning of kinetic ASATs. This paper seeks to offer a realistic proposal that may lead to achieving that goal by building upon the legal framework that already exists and taking into consideration the geopolitical reality of today's world.