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**INTERNATIONAL CONSEQUENCES OF PLANETARY DEFENSE MISSION
FAILURE: PARAMETRIC ANALYSIS OF SCENARIOS BY MANDATE AND
DEFLECTION METHOD**

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ABSTRACT

Given that planetary defense touches the sensitive area of national security, it can have severe global implications, especially since there is no guarantee of success. Following the UN-mandated Space Mission Planning Advisory Group work plan that includes “Consequences, including failure, of NEO mitigation space missions” as one of the tasks, the paper aims to offer a parametric analysis of political consequences in different scenarios.

There are endless scenarios of a possible source of failures of NEO mitigation space missions, including planning phase, financing, development issues, launch or communication failures and much more. Similarly, the scope of the failure can range from a complete “miss”, to creation of a new type of threat (fragmentation of the NEO, collision with another object etc.) to only limited mission success changing the impact by changing its magnitude, angle or speed of entry, location or composition. Given the wide variety of failures, the paper will attempt to provide a parametric analysis of its consequences between different mandates and methods of deflection missions. Firstly, the three types of mandates will include a United Nations Security Council resolution, a United Nations General Assembly resolution and lastly a mission without any UN resolution or global consensus but with a multilateral support of various countries. Secondly, despite the wide variability of different types of missions only two main categories will be considered, nuclear or non-nuclear, due to their political sensitivity.

By changing the different parameters of mission failure (source and scope) in different models, the paper will offer a complex analysis of potential international consequences of failed missions. The results can serve as a valuable input for political consideration of decision-making process on planetary defense.
