

**TOPIC: The Decision to Act: Political, Legal, Social, and Economic Aspects**

**PLANETARY DEFENSE GOVERNANCE:  
FROM AD-HOC DECISION MAKING TO MULTILATERAL SECURITY REGIME**

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**Keywords:** *planetary defense; multilateral security regime; security governance; scientific diplomacy.*

Planetary defense (PD) is a well-established program of Solar System observation of the asteroid population and demonstration missions of possible asteroid deflection. States are discussing possible deflection scenarios based on their scientific knowledge and technology capacities at the UN-endorsed group SMPAG and at the GA. Even though PD is being formally recognized as an inherently global challenge requiring international cooperation at the UN COPUOS, the current state of the global PD governance depends on particular space-faring states and their willingness to fund and execute planetary defense missions. Political representatives tend to consider PD mostly as scientific efforts, respectively efforts conducted mostly by the community of scientists. However, this would change the day an asteroid on a collision course is detected and without solid PD governance in place, behavior of decision-makers could be contingent and thus leading to the possibly unpredictable supranational policy above national security agendas but with inherent implications to the national security of sovereign states. This situation has historical reasons.

This paper, firstly, studies the evolution of PD governance from the 80s up to today, to identify the reasons for the current state-oriented (or inter-governmental in the case of ESA) PD governance. It especially focuses on various policy proposals and explains the reasons behind their successful or failed implementation using the approach of the realist perspective on international relations and security.

Then, secondly, building on the above analysis, the paper proposes a multilateral PD security regime as an answer to the current state of PD governance based on the common principles of a multilateral regime: indivisibility and diffuse reciprocity. A regime is a set of rules, norms, principles, and decision-making procedures that enable sustainable and mutually beneficial cooperation between states. The principle of indivisibility provides all members with equal assurances of security regardless of the size of their contribution, while the principle of diffuse reciprocity is fulfilled by the willingness of countries to deliver their capabilities in an unequal manner. This key approach enables small states to be secured by the security community based on the contribution they can provide, while the contribution is

required unequally to the more powerful states, however, it could still be a critical contribution and it nourishes international technological and scientific cooperation. A multilateral regime is not limited to security but rather to modes of cooperation. Security is the beneficial and desirable outcome.

As the threat of being hit by an asteroid is a low probability, high impact natural phenomenon involving the whole Earth, it requires a multigenerational, financially sustainable, and scientifically beneficial planetary-wide program that covers all without exception and does not meddle into the national security of any sovereign state. As asteroids do not discriminate, the planet Earth should consider establishing a multilateral planetary defense security regime to provide security assurances to all, develop trust in the related technology development that all can oversee, and provide an environment to which all entities contribute with their scientific and industrial capacities.