

**PDC2023  
Vienna, Austria**

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**Key International and Policy Developments, or**

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**PROPOSING A HOLISTIC APPROACH TO AN APPROPRIATE LEGAL  
FRAMEWORK FOR PLANETARY DEFENCE**

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**Keywords:** *NEOs; Planetary Defence; NEO Resources; Space Traffic Management;  
Space Situational Awareness*

**ABSTRACT**

A near-Earth object (NEO) is an asteroid or comet orbiting the Sun with a perihelion distance of less than 1.3AU, in other words a comet or asteroid ranging in size from metres to tens of kilometres whose orbit come close to that of Earth's. According to ESA estimates, more than 20.000 natural space objects in the Solar System are NEOs. The main problem posed by NEOs for Humanity has to do with the possibility of some of them colliding with Earth, which could potentially cause a disaster of such scale as to critically affect life on our planet.

The planetary defence concept provides for mechanisms to detect and give early warning of NEOs that could potentially approach the Earth with a strong probability of collision as well as to stop their course or, if this is not possible, to limit the effects of a collision. ESA's NEOCC and NASA's NEO Observations Program constitute paradigms of action in the context of planetary defence.

This paper discusses, at a first level, the existing legal framework for planetary defence. It finds that existing approaches are national or even regional in nature, whereas the problem is global. At present, the legal assessment of planetary defence is in essence governed by Article IX of the 1967 Outer Space Treaty, according to which international responsibility could be raised for a State that unilaterally attempted to change the course of a NEO and failed in this attempt. It should also be noted that responsibility may also arise from the fact that the State in question did not "undertake appropriate international consultations before proceeding with" the attempt to avoid the collision.

Further, obligations for States acting unilaterally to change the course of NEOs may arise under a holistic approach to planetary defence (which the paper essentially supports), through the taking into account of parameters that do not relate to the course of a NEO *per se* but arise from space activities which, in some way, can determine and/or otherwise affect the conditions under which planetary defence can be designed and carried out, such as the use of nuclear weapons in outer space, the exploitation of NEO resources or, again, the inadequate provision of data through Space Situational Awareness mechanisms. In this context, a review of the concept of Space Traffic Management would be desirable.

What would be the implications of such an approach? At the level of the desirable (*de lege ferenda*), the creation of multilateral mechanisms and institutions (e.g. an international treaty regulating the issue of planetary defence or the establishment of an international intergovernmental organization for this purpose) could provide a collective response, of universal character, to a problem of global importance, a response that would *de facto* have the flexibility and effectiveness that unilateral actions cannot have. For obvious reasons, such a development would be qualitatively upgraded with respect to the most critical factor in the context of planetary defence, which is the decision-making process for intervention. The paper will further elaborate on these perspectives.

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**Comments:**

*(Given the legal nature of the proposed paper, I am of the view that the above proposed thematic areas are ideally suited to the proposed subject matter.)*