

**Deflection / Disruption Modeling & Testing**

**APPLICATION OF IOT IN PLANETARY DEFENSE**

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**ABSTRACT**

Since the very first artificial object was launched into a low-Earth orbit the technology surrounding space research has developed rapidly. Recent advancements let us fight against threats that were never thought of before resulting in the science of planetary defense. Although deflecting an incoming asteroid was considered science fiction a few decades ago, nowadays we are able to successfully modify a near-Earth object's orbit to miss a potential impact.

A new and interesting approach to planetary defense is the application of Internet of Things (IoT) technology. IoT can be conceivably used for the exploration of near-Earth objects as well as for performing defense schemes against potentially hazardous asteroid encounters.

The poster presentation of this research project includes topics of proposal to enable an Internet of distributed deep-space sensing, communications, and defense to cope with disastrous incidents such as asteroid/comet impacts achieved by advanced algorithms of high efficacy. Promising methods are introduced for deflection techniques with the usage of IoT equipment.

The use of IoT implies the application of numerous cheap devices that communicate with each other forming a larger network instead of a single complicated and costly apparatus. This network can be utilized as a complex system to help deep-space exploration and the discovery of potential threats as well as it can be a productive tool for the modification of the orbit of near-Earth objects. Mentioned ideas include distributed solar sail technology along with the description of how we can make use of Internet of Things to detect asteroids that may be dangerous to life on Earth.

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**Comments:** *Poster presentation*