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JEDI – A Joint Earth-Moon Extraterrestrial Threats **Defense Architecture**

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ABSTRACT

Much of the planetary defense literature to date is focused on mitigating direct threats to planet Earth.

Few studies have included the threat to Earth posed by an impactor on our Moon. Since the Moon is in close orbit around our planet, an impact on the Moon, particularly at certain energies and oblique or grazing angles can inject secondary debris into space, that can pose substantial danger not only to assets all over the lunar surface or in lunar orbit, but high energy debris can also disperse across the entire cislunar domain, a region of near space that will continue to see much more activity in this decade and beyond.

Lunar impactors can also pose far more complex threats to Earth and to Earth orbital assets, as we continue to make more investments in critical and high value assets across various Earth orbital regimes.

The concept in this short paper highlights the need to protect both the Moon and Earth from potential extraterrestrial bolides and proposes the need to expand the current predominantly Earth-focused Planetary Defense strategies and architectures to include the Moon.

A proposal to facilitate such a Earth-Moon planetary Defense network is more vital now than ever before to protect our civilization and critical infrastructure.

It is time to initiate a multilateral dialog at the global level to establish a Earth-Moon Joint Extraterrestrial Threats Defense Infrastructure – JEDI.

The Joint Extraterrestrial Threats Defense Infrastructure(JEDI) concept is proposed to address this need to initiate discussion to establish a more circumspect space situational awareness for Earth and the Moon and to provide for a cislunar and globally responsive Planetary Defense Capability.