
Characterization Track

If an NEO is detected to be a threat to the Earth, beyond a certain threshold, the central facility will assemble an observer to be launched as soon as possible.

The observer stack can be launched on a number of existing and proposed launch vehicles. Some non-U.S. vehicles may have the needed performance as well.

As far as does not approach the NEO it includes the properties of slightly shorter duration for use of the target and shorter path length. The observer stack includes the NEO's attributes.

The observer stack will have 3 to 4 pairs of instruments to monitor the NEO. This is the capability of this mission. For further information or to express your interest in this study, please e-mail: cmmarotti@bellatlantic.net.

Deflection Track

If an NEO is found to pose a significant threat, then a mitigation system will be launched. The mitigation system can be used by a variety of options. These options are shown here, but others could easily be included.

Decision Tree (conjunctive)

After selecting the mitigation system, the magnitude of the threat will determine the method of launch. The Ave-I system is capable of launching up to six mitigation systems simultaneously.

A single mitigation system can be launched on an Ariane V, Atlas V, or a Delta IV Heavy.

ANNOUNCEMENT NASA MSFC is investigating hosting an interactive workshop on the issue of orbital debris. This workshop would entail collaboration between NASA design engineers and anyone with a concept for reducing the population or mitigating the debris that exists in low-Earth orbit. Participants would provide their own resources to produce a design that could be granted a MSFC launch vehicle and spacecraft design tools to produce an integrated design concept. A workshop is anticipated in the fall 2009 timeframe for all participants to refine their concepts and comment on the other proposals.

For more information or to express your interest in this workshop, please e-mail: cmmarotti@bellatlantic.net.

Exploration Track

This system holds the promise of enabling NEO characterization missions as well as in-situ resource utilization for further space exploration. This track will be investigated at a later date.

KINETIC INTERCEPTOR

NEO Interceptor

Nuclear

Solar

Physics of Nuclear Interceptor

Systems at options defined above are best for scenario that are the same or similar to the near-Earth asteroid

• Total mass is divided in any number of stages

Special options selected

Physics of Solar Collector

Primary solar array based launch

Run from end station to in-situ vehicle

Solar panels extending in MSL

Thermal management system

Selenium/Titanium Solar Arrays

Nuclear Interceptor

Launch from Earth

Launch from Earth

Solar Collector

Design

Physics

Inertial

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