

PDC2019
Washington, DC, USA

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**THE HERA MISSION IN THE CONTEXT OF ESA'S PROPOSED SPACE SAFETY
AND SECURITY PROGRAM**

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Keywords: *ESA, Space safety and Security, asteroid deflection mission*

ABSTRACT

Hera is the European component of the joint ESA-NASA Asteroid Impact and Deflection Assessment (AIDA). AIDA performs an asteroid deflection test consisting of a kinetic impactor provided by NASA (Double Asteroid Redirection Test, DART) and the asteroid rendezvous mission Hera that will investigate the outcome of the impact.

The Hera mission is an optimised version of the previous Asteroid Impact Mission (AIM), proposed at ESA's Ministerial Conference in 2016 (CM16). Following CM16, interest in the mission was voiced by many member states, and support to a planetary defence mission with NASA was confirmed in bilateral meetings. Hera is defined taking into account lessons learned from the Rosetta mission as well as the previous AIM studies, increasing its technical and programmatic robustness. The mission is currently in phase B1 with industry, supported by 11 Member States who also fund payload and technology development activities.

Hera is foreseen to be proposed for implementation at ESA's Ministerial Conference in 2019, Space 19+, in the context of a new Space Safety and Security program, one of the four pillars in ESA's program proposal for the next decades.

Hera is targeting a launch in 2023 or 2024 with arrival at the target, the binary asteroid Didymos, in early 2027. Backup launch opportunities exist in 2025 and 2027, with correspondingly later arrival times.

Planetary defense is one of the segments of the Space Safety and Security program, with Space weather and Space debris being the others. After Hera, the planetary defense roadmap foresees asteroid exploration missions, low-cost missions employing smallsats to investigate a number of asteroids of different taxonomic types and sizes, followed by a predicted kinetic impactor, a new kinetic impactor mission, with the outcome being predicted based on the experience of Hera and the knowledge about the physical properties of asteroids gained from the explorer missions.

We will present the programmatic context of the Hera mission and the status of its preparation for the program proposal at Space 19+.

Comments:

Oral presentation requested