

THE HERA MISSION ROLE IN THE ASTEROID IMPACT & DEFLECTION ASSESSMENT (AIDA) COLLABORATION

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Hera is a planetary defence mission under development in the Space Safety and Security Program of the European Space Agency for launch in October 2024. It will rendezvous in late 2026 December with the binary asteroid (65803) Didymos and in particular its moon, Dimorphos, which will be impacted by NASA's DART spacecraft on September 26, 2022, as the first asteroid deflection test. The main goals of Hera are the detailed characterization of the physical properties of Didymos and Dimorphos and of the crater made by the DART mission, as well as measurement of the momentum transfer efficiency resulting from DART's impact. The data from the Hera spacecraft and its two CubeSats will also provide significant insights into asteroid science and the evolutionary history of our solar system. Hera will perform the first rendezvous with a binary asteroid and provide new measurements, such as radar sounding of an asteroid interior, which will allow models in planetary science to be tested. Hera will thus provide a crucial element in the global effort to avert future asteroid impacts at the same time as providing world-leading science.