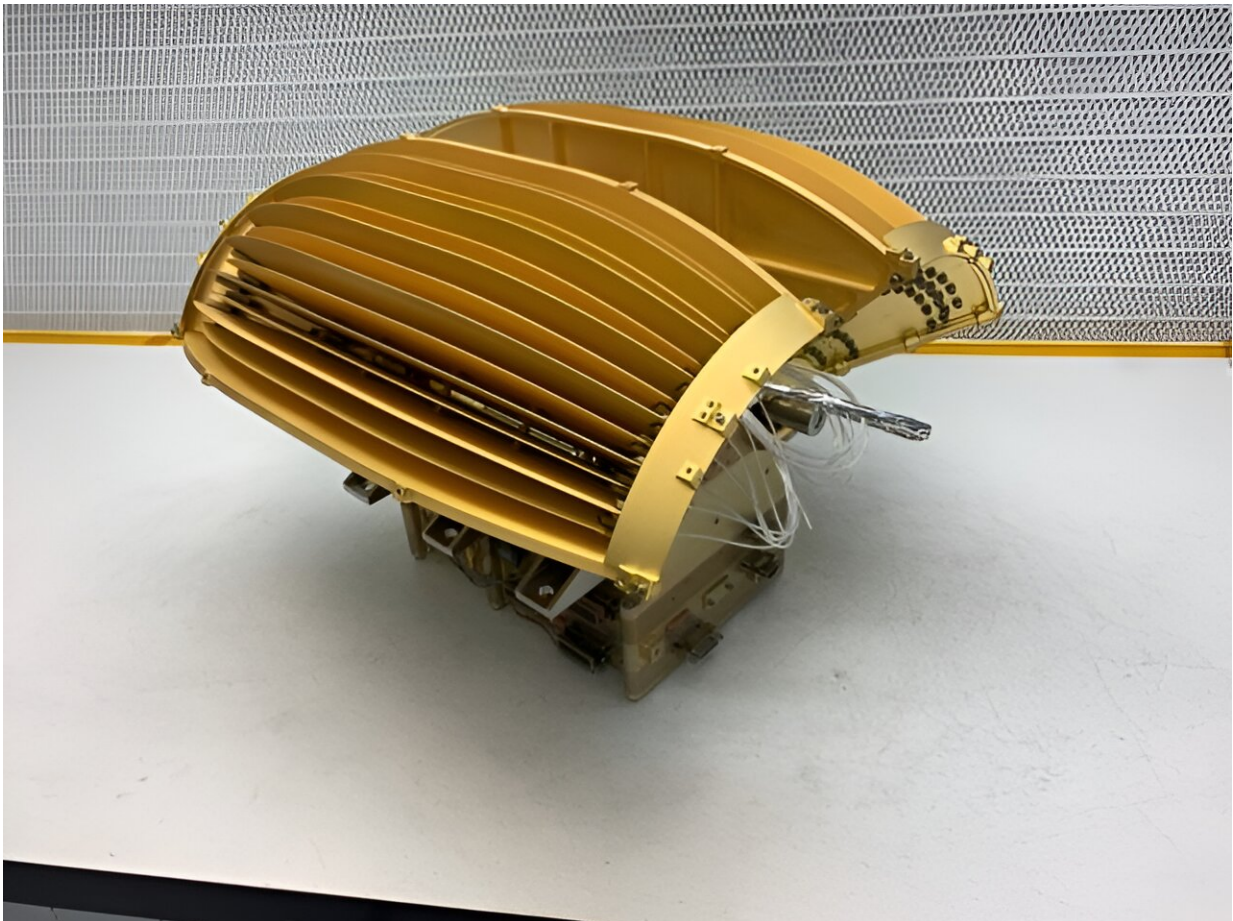


Advanced imager ready for installation on IMAP spacecraft

March 19 2024, by Denise Hill



The IMAP-Ultra 45 instrument after integration and prior to calibration. Credit: NASA/Johns Hopkins APL/Princeton

Another of the instruments planned for flight aboard NASA's Interstellar Mapping and Acceleration Probe (IMAP) is ready for installation on the spacecraft.

IMAP-Ultra is a particle imager capable of capturing [energetic neutral atoms](#) (ENAs), particularly [hydrogen atoms](#) and is the third instrument to be delivered for integration. Engineers will now perform a series of tests to ensure Ultra can properly communicate with the spacecraft before it is fully integrated into the IMAP structure and into the onboard electronics system.

IMAP-Ultra is one of three imagers on IMAP that capture ENAs traveling from the boundary of our solar system. When charged particles from the [solar wind](#) reach our outer heliosphere, they interact with interstellar neutral particles and transform into ENAs. ENAs still retain information about the original charged particles, but losing their charge allows them to travel through space unbounded by the sun's magnetic field and eventually reach IMAP. The three imagers will capture data on ENAs at varying [energy levels](#).

IMAP-Ultra also features unique gold-plated blades that deflect charged particles, allowing only neutral atoms to reach the instrument's sensor.

Provided by NASA

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