NASA’s IMAP to study cosmic rays in heliosphere

An artist’s impresion of the heliosphere encompassing the entire solar system, with the sun as a white dot. | Photo Credit: AP

NASA is targeting 2024 for the launch of a new mission to learn more about the generation of cosmic rays in the heliosphere, a sort of magnetic bubble surrounding and protecting our solar system.

Cosmic rays created locally and from the galaxy and beyond affect human explorers in space and can harm technological systems, and likely play a role in the presence of life itself in the universe.

The Interstellar Mapping and Acceleration Probe (IMAP) mission will help researchers better understand the boundary of the heliosphere, NASA said in a statement on Friday.

IMAP was selected following an extensive and competitive peer review of proposals submitted in late 2017, it added.

Heliosphere is the region where the constant flow of particles from our Sun, called the solar wind, collides with material from the rest of the galaxy.

This collision limits the amount of harmful cosmic radiation entering the heliosphere. IMAP will collect and analyse particles that make it through.

Protective sheath

“This boundary is where our Sun does a great deal to protect us. IMAP is critical to broadening our understanding of how this ‘cosmic filter’ works,” said Dennis Andrucyk, Deputy Associate Administrator for NASA’s Science Mission Directorate in Washington.

“The implications of this research could reach well beyond the consideration of Earthly impacts as we look to send humans into deep space,” Andrucyk added.

The spacecraft will be positioned about 1.5 million kilometres away from Earth towards the Sun at what is called the first Lagrange point or L1.

The quadrivalent vaccine will have two A virus strains — H1N1 and H3N2 — and two B virus strains — Victoria and Yamagata

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