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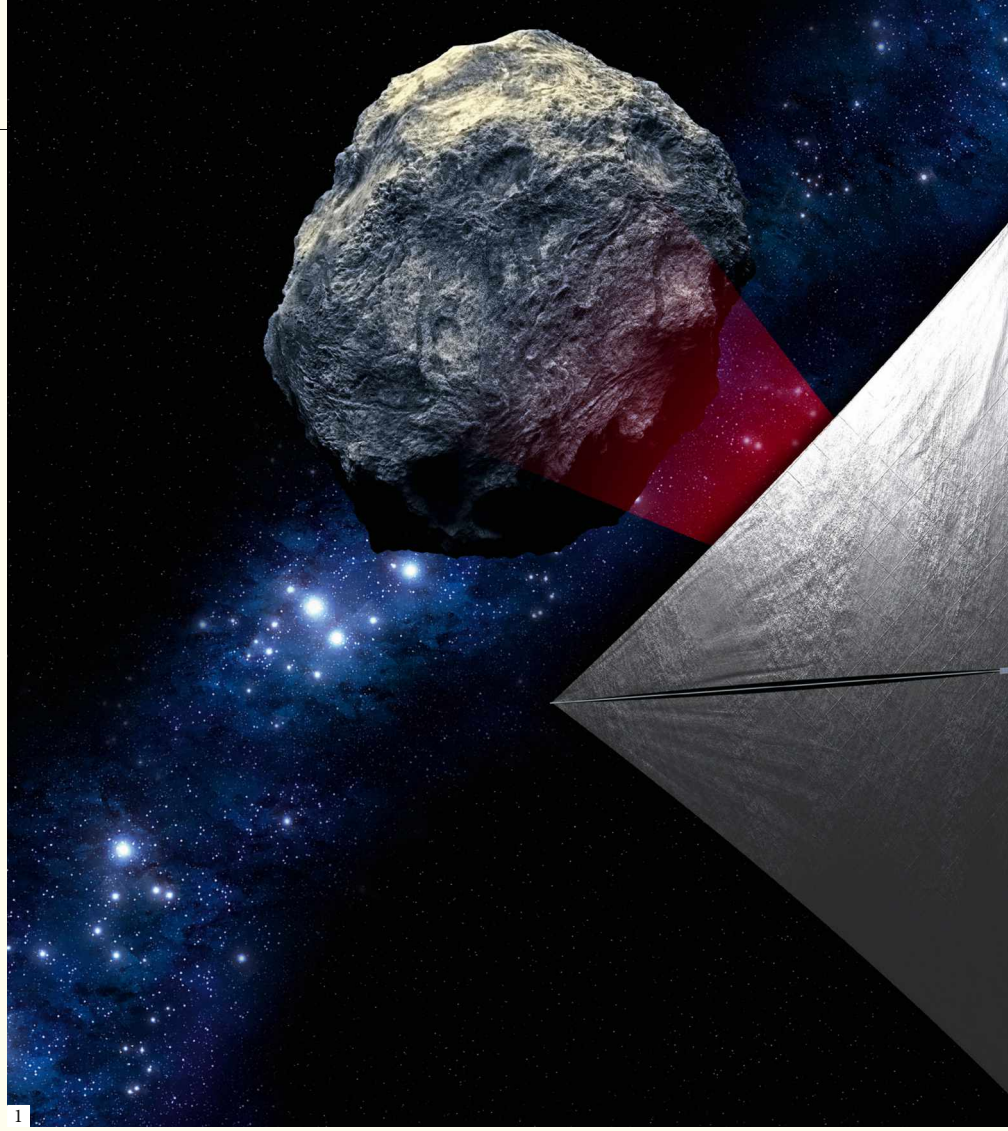

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SPACE

NASA preps a solar sail mission to chase down an asteroid

A space rock the size of a bus will be the target of this shoebox-sized spacecraft that will use the Sun as a means of propulsion.

Near-Earth Asteroid Scout (NEA Scout) will hitch a ride aboard the test launch of the Artemis rocket in March. Once in space, it'll deploy a solar sail which will reflect the Sun's radiation to propel it forwards.

Asteroids smaller than 100m across have never been studied up close. NEA Scout will pull up alongside its target and investigate its composition to work out whether it's a single boulder-like rock or if it's made up of clumps of dust and debris.

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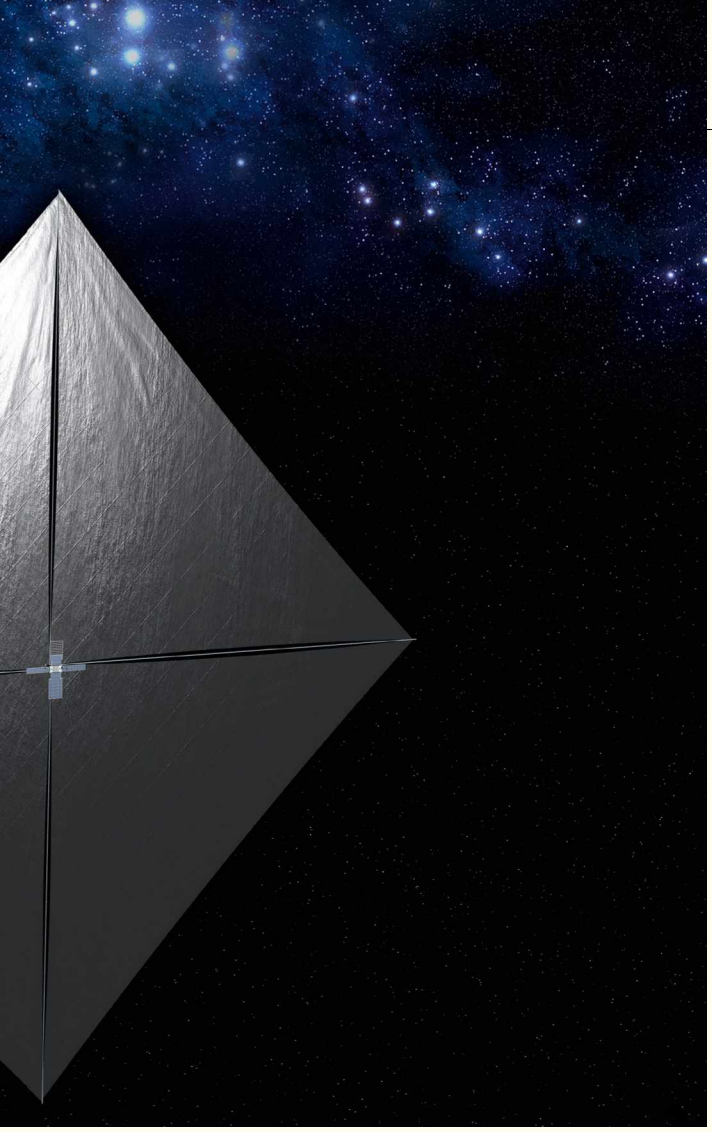
NASA X5



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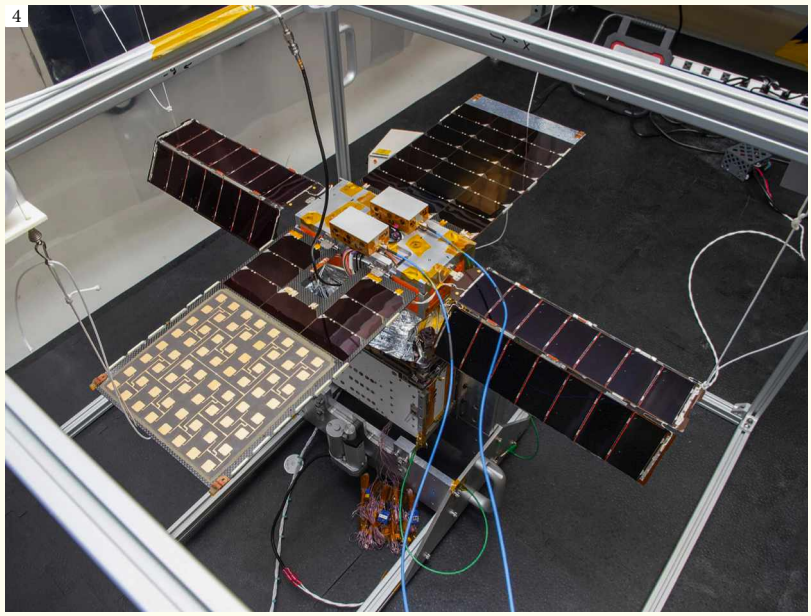

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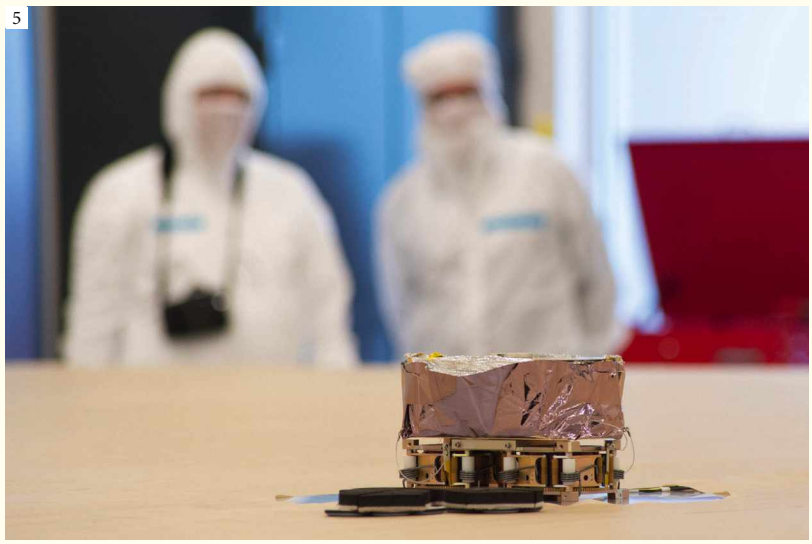

1. This artist's impression shows how the sail could deploy and take the payload to its target 2020 GE – a near-Earth asteroid that is less than 18 metres in size. Its journey is expected to take up to two years and will see the craft travel 150 million kilometres from Earth.

2. The craft's sail is made from plastic-coated aluminium that is thinner than a human hair. The propulsion is generated by the sail reflecting solar photons – particles of light radiating from the Sun. This solar sail technology allows vehicles to be propelled indefinitely through space and cover great distances.

3. Packed down into its CubeSat form factor, NEA Scout will hitchhike as one of 10 payloads aboard an Artemis Space Launch System rocket, scheduled to launch sometime in March 2022 from NASA's Kennedy Space Center in Florida.

4. This picture shows NEA Scout in its deployed state. Its camera has been specifically designed to accurately measure the size, shape, rotation and surface properties of the target asteroid. It will take images of the asteroid in resolutions ranging between 50cm pixels and 10cm pixels.

5. NEA Scout's sail was packed down to the size of a lunchbox to take up as little room as possible before launch and deployment. Once deployed, the sail will stretch out to become 86 square metres in area.