

Experiment to reduce space junk

The ESTCube-2 ultra-small spacecraft, built at the University of Tartu in Estonia, will test a “plasma brake” that can remove a satellite from Low Earth Orbit at the end of its mission

IONOSPHERE: Upper atmosphere stretching to edge of space

ESTCube-2

Length:

358.4mm

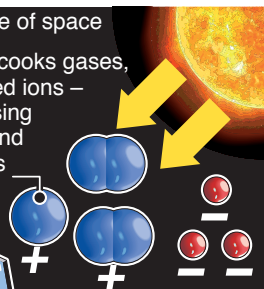
Orbit:

564km

Speed:

7.6km/s

PLASMA: Solar radiation cooks gases, creating electrically charged ions – atoms and molecules missing electrons – and free electrons



Solar panels

PLASMA BRAKE: 300-metre multi-wire tether charged to 1,000 volts

Corrosion testing experiment

Earth observation cameras

High-speed downlink antenna

COULOMB DRAG EFFECT: *Electrons in negatively-charged tether interact with electrons in ionospheric plasma to generate drag*

ORBITAL ALTITUDE: *Coulomb drag can reduce orbit of satellite by 200km in 26 weeks*

SPACE DEBRIS: *ESA estimates 36,500 objects larger than 10cm wide in Earth orbit, plus 1,000,000 objects between 1cm to 10cm and 130 million objects smaller than 1cm*

10cm

